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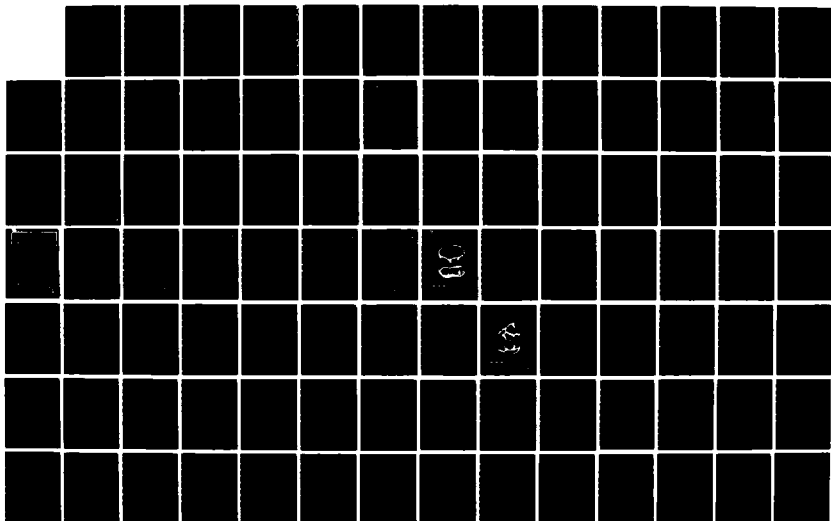
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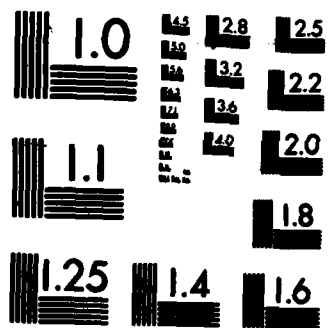
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**CULTURAL RESOURCE TEST SAMPLING PROGRAM  
FOR A PROPOSED FLOOD CONTROL PROJECT IN THE  
LOWER SAN LUIS REY RIVER DRAINAGE  
OCEANSIDE, CALIFORNIA**

**Prepared For:**

**U.S. Army Corps of Engineers  
Los Angeles District  
P.O. Box 2711  
Los Angeles, California 90053  
(DACW09-79-M-1704)**

**Prepared By:**

**WESTEC Services, Inc.  
3211 Fifth Avenue  
San Diego, California 92103**

**October 1979**

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## ABSTRACT

This report details and discusses an archaeological data recovery program conducted for the Corps of Engineers within a portion of the lower San Luis Rey River in northern San Diego County. A limited subsurface testing program was conducted to assess the significance of cultural resources within a proposed dredging and channel improvement project. The archaeological excavation was carried out on seven previously recorded sites. A majority of the prehistoric cultural remains can be associated with Luiseno maintenance of large camps and rancherias along the banks of the San Luis Rey River. Nearby adobes have been identified as remnants of the late Mexican/early American period, circa 1850-1880.

## **ACKNOWLEDGEMENTS**

The authors of this report would like to express gratitude to the following individuals and institutions for their contributions toward aiding project completion: the field and laboratory personnel of WESTEC Services, Inc., Pat Martz, the archaeologist for the Los Angeles District, Corps of Engineers, and to Henry Rodriguez, a Luiseno from Pauma who served as a native American project advisor. Special thanks is given to San Diego State University and to the San Diego Museum of Man for site information obtained from their files.

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## **SECTION I**

### **INTRODUCTION**

#### **1.1 PROJECT SIZE AND FIELD CREW**

A limited archaeological subsurface sampling program has been completed on the lower San Luis Rey River drainage by WESTEC Services, Inc., of San Diego. Preliminary excavation was conducted at seven previously recorded sites along the drainage in response to an Army Corps of Engineers planned flood control project, and in compliance with existing environmental regulations (Public Law 981-190, National Environmental Policy Act, Public Law 93-291, Archaeological and Historical Preservation Act).

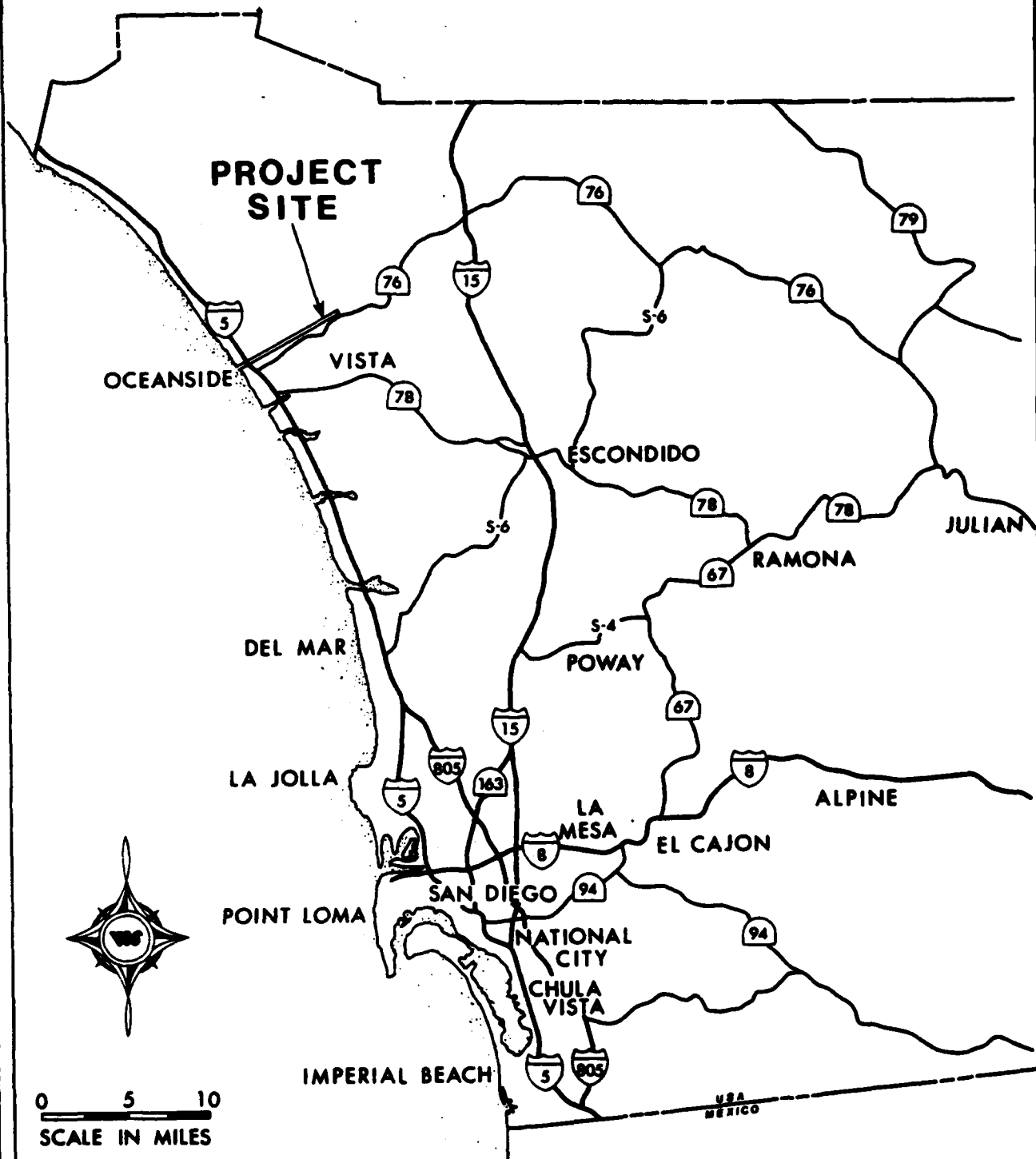
Richard L. Carrico served as cultural resource manager. The archaeological field team was headed by Randy L. Franklin, with Brian Hunter, Ross Hunter, Neil Rhodes, Sallie Hyslop, and Steven Van Wormer as archaeological technicians. Mr. Henry Rodriguez served as native American consultant.

#### **1.2 SCOPE OF WORK AND HOURS EXPENDED**

The field program was conducted from July 30 through August 2, 1979. A total of 250 hours were expended in the field phase of investigation. Laboratory cataloging was carried out from August 7 through August 10. Laboratory classification of artifact material was completed by Brenda Gelinas, Tracy Roether, and R.L. Franklin.

#### **1.3 PROJECT LOCATION**

The proposed Army Corps of Engineers flood control project is located within the northern limits of the City of Oceanside, California and directly south of Camp Pendleton in northwestern San Diego County (Figure 1). The San Luis Rey River in the study area runs from northeast to southwest. From its confluence with the Pacific



Project in Relationship to San Diego County

**FIGURE**  
**1**

Ocean, the project goes inland approximately seven miles to a point just beyond Murray Road (Figure 2). The USGS 7.5 minute quadrangle maps for Oceanside, San Luis Rey, and Morro Hill were consulted and the relevant Sections for this study were as follows: Sections 22 and 23 for the Oceanside quadrangle; Sections 14, 13, 18, 7, 8, 9, and 4 for the San Luis Rey quadrangle; and Section 4 on the Morro Hill map.

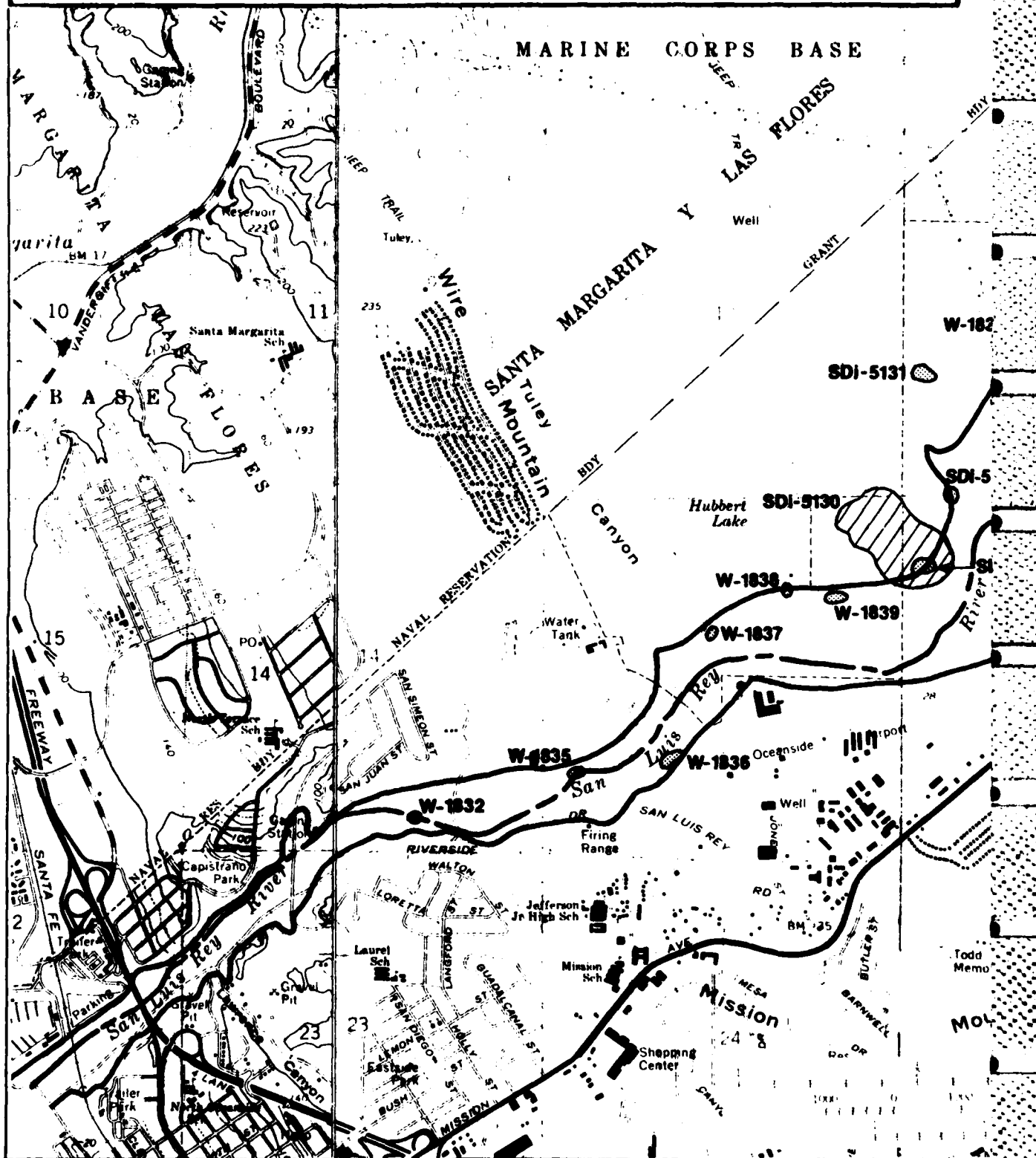
#### 1.4 PROJECT SETTING

The San Luis Rey River is generally seasonal in nature, but is subject to periodic floods, depending upon the amount of winter rainfall. From its mouth, south of the Oceanside Harbor, the San Luis Rey River empties into a small lagoon and marshland. From the slough area to a point one mile inland, the river runs a restricted course, bounded on either side by steep chaparral-covered cliffs. Just south of Tuley Canyon the valley opens and the river meanders in a northeast to easterly direction upon this wide floodplain, through the remaining project area (Figure 2). The majority of the soil within the drainage is river-deposited alluvium; the surrounding foothills, knolls and ridges are undivided sandstone; and the immediate coastal strip is a region of terrace deposits and dissected alluvium. The gabbroic rocks of the San Marcos formation occur in the extreme northeastern margin of the study project area (Weber 1963:59).

The San Luis Rey River drainage proper consists of riparian associated vegetation. Plants noted include willow (Salix sp.), sycamore (Platanus racemosa), cattails (Typha sp.), nettles (Urtica sp.), datura (Datura meteloides), native tobacco (Nicotiana sp.), and castor bean (Ricinus sp.). The outlying knolls and ridges contained an impoverished chaparral community; dominant species included buckwheat (Eriogonum fasciculatum) and sages (Salvia apiana and Salvia mellifera). The San Luis Rey River has been extensively used for and modified by modern farming and grazing

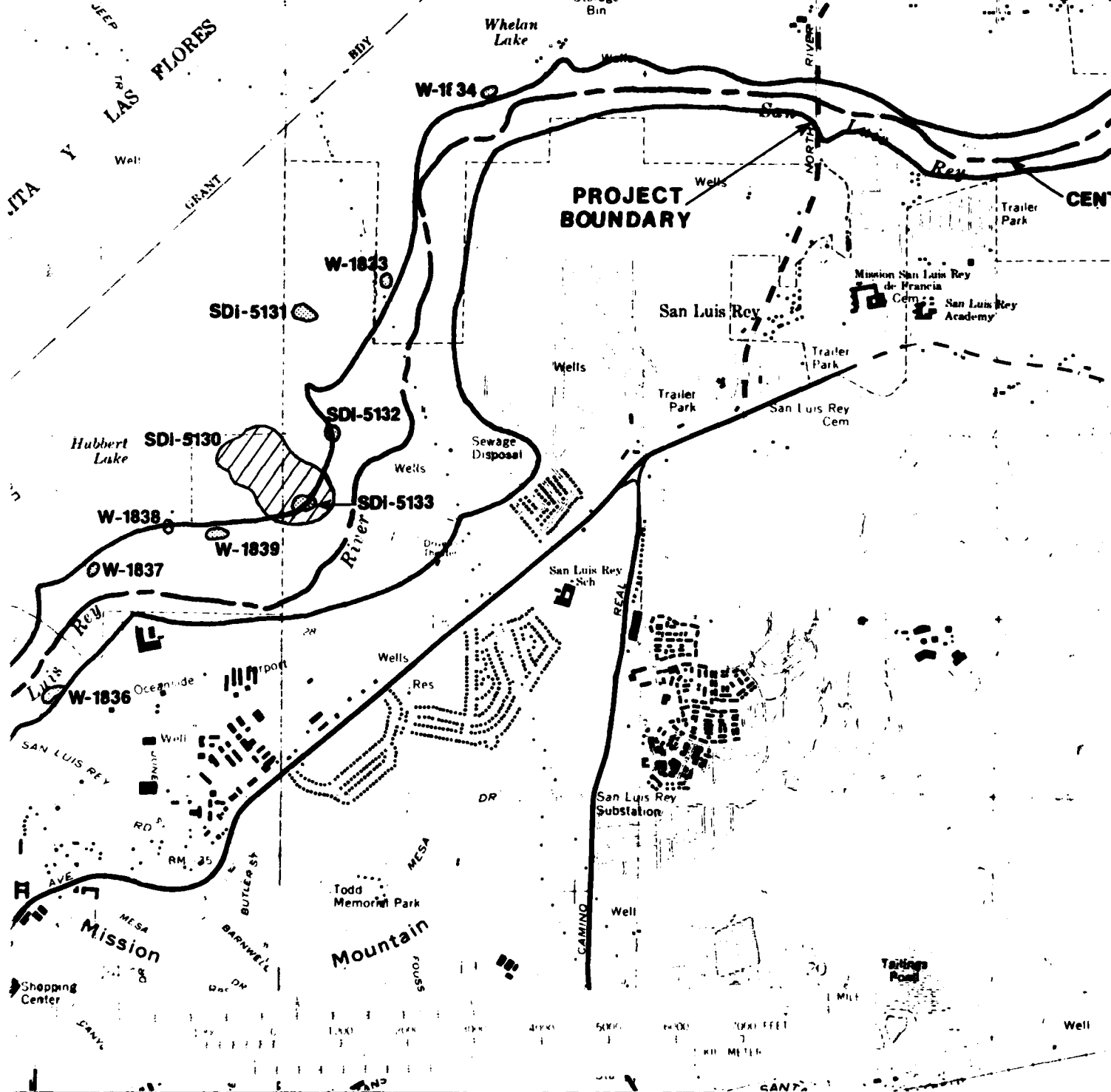
activities. The region around the mission and also north and east of North River Road is at present under cultivation with tomatoes and corn.

**FIGURE 2**



①

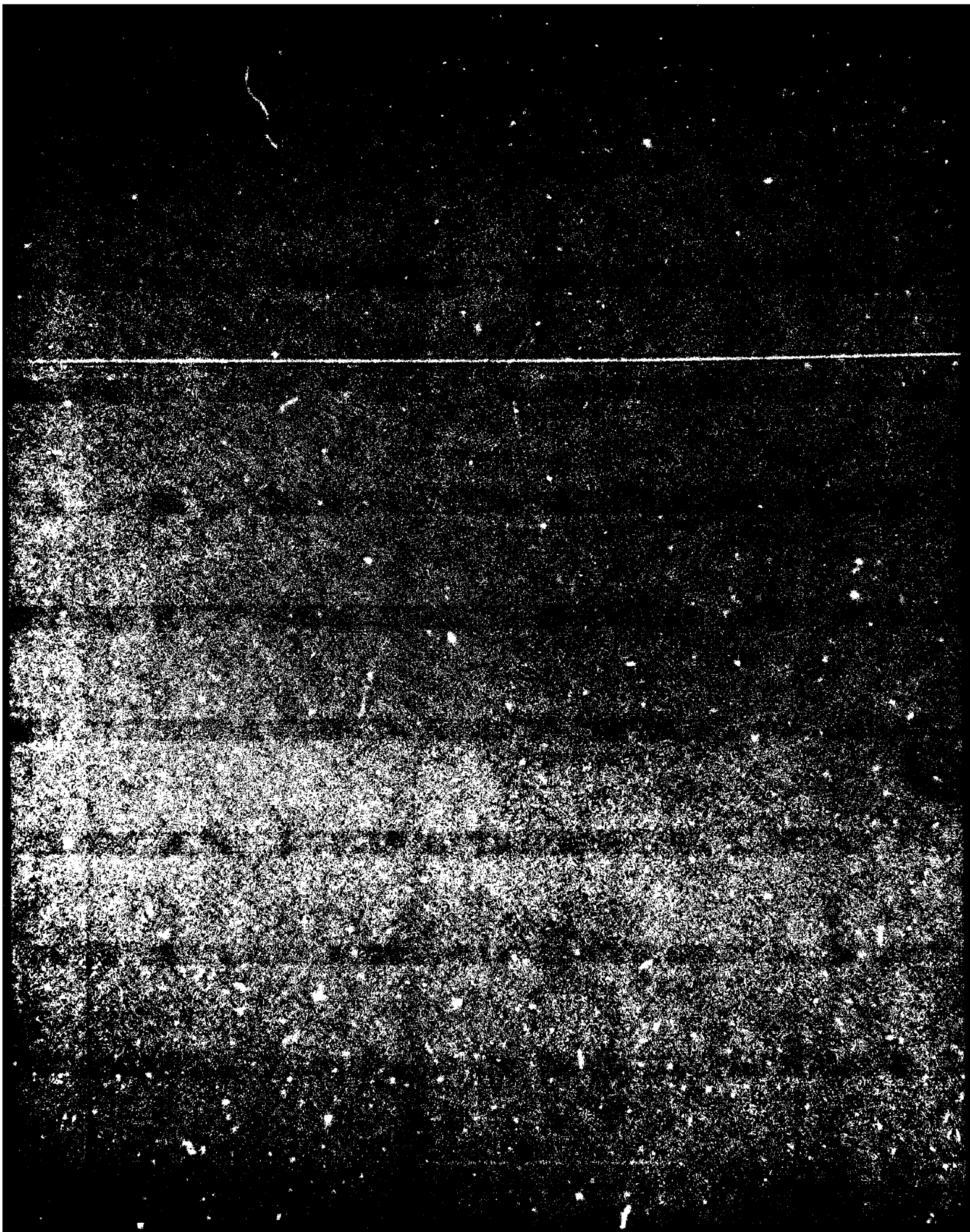
## FIGURE 2



(2)







## **SECTION II**

### **BACKGROUND DATA**

#### **2.1 CULTURAL HISTORY**

A complete cultural history for San Diego County is provided in Attachment A.

#### **2.2 PREVIOUS FIELDWORK AND RESEARCH**

Until recently, the lower San Luis Rey River Valley received only slight attention from archaeologists and cultural historians. In recent years, compliance with local, state and federal environmental policies has greatly augmented the data and information which was gathered in the 1900-1970 period. Several sites and locales discussed below are depicted in Figure 2.

As early as 1932 attempts were made to excavate and restore portions of the San Luis Rey Mission gardens and bathing area (Soto 1961:39). Emphasis was placed on uncovering large architectural features; consequently, little information is available on artifacts or smaller cultural debris that may have been recovered during the excavation.

Over 20 years later, a more controlled excavation was conducted on the mission grounds. As reported by the project foreman, Father Anthony Soto (1961:34-43) the excavation revealed an extensive complex of acequias and lavanderias associated with the mission water supply and bathing facilities. A large range of prehistoric and historic artifacts were retrieved, including European coins, bone gambling sticks, native and European beads, shell money, smoking pipes, stone tools, Chinese and Mexican pottery and hundreds of other cultural items. Soto's excavation and brief analysis clearly documented the multicultural background of Mission San Luis Rey — a place

archaeological evidence, dating and after the advent of European and Mexican settlers.

For some 45 years, between the early 1930s and early 1970s, there were no known, scientifically controlled excavations or surveys in the lower San Luis Rey River basin. Along the upper San Luis Rey River between Bagnall and Palomar Mountain, several large-scale surveys, excavations and resource assessments were conducted (True 1964, 1966). D.J. True synthesized much of the data recovered during his studies (Warren *et al.* 1961), and published it in his doctoral dissertation (True 1966). More recently these data appears in an analysis of Luiseno settlement systems (True *et al.* 1974). Maude Boyle conducted excavations in front of Mission San Luis Rey in 1966-1968, but no report of that effort has been prepared.

True and other researchers were aided by a copious amount of ethnographic data and information dating from the early 1900s. An ethnographic overview by Philip B. Sparkman (1966) and the now classic studies of Luiseno religion and ceremony by Constance DuBois (1966) introduced the scholarly world to the Shoshonean peoples of northern San Diego County. Ten years later Edward Gifford published his seminal study on clans and moities (1918:167-174) followed by Alfred Kroeber's handbook on native life (1926), William Strong's analysis of aboriginal society (1929), and Raymond White's specific study of Luiseno social structure (1963).

More recent researchers, both archaeologists and ethnographers, have continued the work started by their early predecessors. In 1973 and 1974 Gary Fink conducted a survey of the proposed 565-acre Guajome Regional Park (Fink 1974). Fink recorded five archaeological sites within the park and four sites in adjacent areas including W-606 and W-671, near the current study. In the past year, Fink (1978:26) has conducted testing and analysis of several sites within the proposed park and concluded

that taken as a whole they represent the Luiseno rancheria of Wahaunai (orthographically given as Wahuamai or Guajome).

Smaller surveys included a study of the proposed Whelan Ranch project (RECON 1974). Whelan Ranch contained six prehistoric deposits recorded as one site with six loci. Each locus had small amounts of shell (Chione sp., Pecten sp., and Ostrea sp.) and some flakes. The Whelan Ranch loci were not assessed for cultural affinity although they may be Luiseno shellfish processing areas.

An intensive survey of the San Luis Rey River from Oceanside Harbor to Rancho Guajome produced eight prehistoric sites and two historic adobes. The prehistoric sites included a major late Luiseno rancheria (SDi-5130) and subsidiary camps/processing areas. One adobe (SDi-5133) was probably constructed and used by Luiseno villagers; the other is associated with an early white pioneer, Benjamin Hubbert (Carrico 1977a, 1978).

A limited excavation, under controlled conditions, of site SDi-5130 was undertaken by WESTEC Services, Inc. for the Mar Lado project. A site recorded and designated as W-1527, directly east of the Oceanside Valley Drive-In, by Richard Norwood has also been recently tested by WESTEC Services, Inc. Site W-1527 revealed shell, pottery, adobe and lithics in a disturbed matrix of river alluvium and slope wash (WESTEC Services 1978). SDi-5422, first recorded by Kaldenberg in 1973, was excavated by Roberta Greenwood in 1978. This site is located near Mission San Luis Rey and Highway 79 and has been described as a Phase II study of a "badly disturbed and secondary deposition from a site north or east." The midden consisted of cultural material assigned to the Luisenos and showed indications of a strong mission influence (Greenwood 1978).

Several negative surveys have also been conducted near the study area. Paul Chace & Associates found no archaeological resources in their survey of the Williams property (Chace 1977). Similarly, conducting a study for the Army Corps of Engineers' harbor project, Sue Ann Cupples found no archaeological resources near to or affected by the Army Corps project (Cupples 1976). As coauthor with Kenneth Hedges, Ms. Cupples compiled a valuable cultural resource overview of the entire San Luis Rey River basin (Cupples and Hedges 1976).

In summary, the lower San Luis Rey River drainage has received increasingly intense, more professional archaeological inventory and assessment. Although much remains to be done, it is apparent that the area in and around both Mission San Luis Rey de Francia and Rancho Guajome supported several major Luiseno rancherias and probably hundreds of subsidiary camps. As discussed in detail in later sections, Luiseno rancherias persisted from approximately 1000 years ago into the late 1870s.

### 2.3 ETHNOGRAPHIC/ETHNOHISTORIC DATA

The area in and around the Mission San Luis Rey de Francia was apparently heavily populated by Luiseno peoples of the Late Milling Horizon. Ethnographic and ethnohistoric information supplements the archaeological data and provides several interesting and definitive insights into Luiseno life along the Lower San Luis Rey River.

In a dialogue reportedly dictated about 1835 by Pablo Tac, a Luiseno neophyte, the Luiseno name of Quechla was the plural form of a native word for a certain kind of stone and that quechla was the singular form. A recent historian noted that Keish, Qee'sh, and Quechla are orthographic variances for the same Luiseno village/placename. In his 1908 study of the Luiseno, Sparkman (1908:191) reported that his informants called San Luis Rey Keish.

The San Luis Rey area contained 21 different Luiseno clans indicating a dense and diverse population, equalled in numbers of clans only by the rancheria at Pechanga (Strong 1929:276-277). Based on Kroeber's estimate (1970:686) that a clan was comprised of 25 to 30 persons, a population of between 525 and 630 Luisenos can be suggested for the San Luis Rey area. Kroeber (1925:Plate 57) recorded four villages in the vicinity of Mission San Luis Rey: Keish (at San Luis Rey); Wiasamai and Wahaumai, located west of San Luis Rey; and Kwalam, located halfway between San Luis Rey and Pala.

The presence of Luisenos throughout the lower portions of the San Luis Rey River is well-documented by historians early explorers and ethnographers. In July 1769 a Spanish exploring party led by Don Gaspar de Portola crossed the wide San Luis Rey River Valley on their way to Monterey (Carrico 1977b). Portola and his men found the valley floor "so green that it seemed to us that it had been planted" (Palou 1926:116). It was also noted that two large Luiseno villages were situated on both sides of El Camino Real at opposite ends of the valley.

The Spaniards found the natives to be friendly, outgoing and prepared for their arrival. Because of the water supply, lush vegetation and large numbers of natives, it was recommended that the San Luis Rey Valley, originally named San Juan Capistrano, be considered as a potential mission site. Twenty-nine years later, in 1798, a mission was officially founded at San Luis Rey although a church would not be built until 1802. Construction of the present mission structure was begun in 1811 and completed in 1815. Mission San Luis Rey de Francia was one of the most successful California missions in terms of converting natives and developing a farming/grazing subsistence (Englehardt 1921).

...and a ... .. 1880, left the ... .. to ... .. to provide for ... .. of the ... .. the mission had ... .. and the ... .. The American takeover of California, beginning around 1800 led to further deterioration of the church.

Although ... .. and a man named William ... .. the San Luis Rey River Valley remained sparsely populated well into the 1870s (Bass 1963). In 1899 the Tibbetts family were apparently the only white settlers in the valley. F.A. Graham successfully farmed the valley in the late 1880s and ultimately established a thriving mercantile business with J.A. ... ..

By the 1870s the Hubberts, Goldmans, Crouches and other pioneer families had settled in the valley. Benjamin Hubbert and his father grazed cattle and raised cereals in and around the present study area. Elmer Goldman owned and farmed land east of the project site; Herbert Crouch was a successful sheep rancher. Old El Camino Real crossed the San Luis Rey River Valley and thus the current project site (San Diego County maps 1871 and 1893). Many a traveler traversed the old dirt road through San Luis Rey on their way to, or from, Los Angeles. Judge Benjamin Hayes (1829:117-118, 141, 144), among others, often commented on the lushness or harshness of the river bottom land, depending upon the season. In May 1868, Hayes reported that the hills were covered with rows of golden oats and that a Luiseno rancheria near the mission was still occupied (1829:201).

Over the years many of the larger ranches throughout the valley have been replaced by smaller spreads or commercial/urban development. The remains of individual ranch structures and of the old American village of San Luis Rey have either

been destroyed or covered over with later improvements, but scattered traces of early San Luis Rey still remain including an adobe structure on the margins of the project site area.





### SECTION 3

#### REGIONAL POTENTIAL

Taken as a whole, the San Luis Rey River basin would have been a suitable and desirable place for native American occupation and use. In terms of native plant and animal life, the area in and around the project site had high potential as an exploitation area for the known cultures of San Diego County. Although it is difficult to assess present vegetation in terms of what may have existed in past years, a general overview of contemporary native plant species was noted previously in Section 1.

Local granitic and gabbroic rock outcroppings could have been used as food processing centers as is evidenced by intensive grinding complexes throughout the area. Rock overhangs and natural rock shelters would have provided living chambers, mediums for art forms, and temporary shelter from the elements. Lithic resources which could have been used in stone tool manufacture are not common within the study area, although dikes and veins of quartz and metavolcanic rock are scattered within the probable land-use territory of the peoples who inhabited the area. Cobble formations which could have provided suitable material for grinding stones (manos) can be found in stream beds and within nearby geologic formations.

The close proximity of the San Luis Rey River and several creek and stream channels would have provided a viable and steady water source; a primary factor in selection of aboriginal occupation and campsites. Besides its function as a life supportive fluid, water was also used to soak plant fiber during preparation of both food and construction resources. The presence of water also had a direct effect on the type and quantity of plants within a given area and served as an attraction to animals, thus increasing the chance of native hunters finding at least sporadic game.

In summary, the San Luis Rey River basin could have served as a vast resource area which was probably exploited by Indians on a regular basis, depending on the available foodstuffs, lithic resources and water supply. An exploitation pattern such as this could result in archaeological sites indicative of temporary camping, food processing and seasonal occupation.

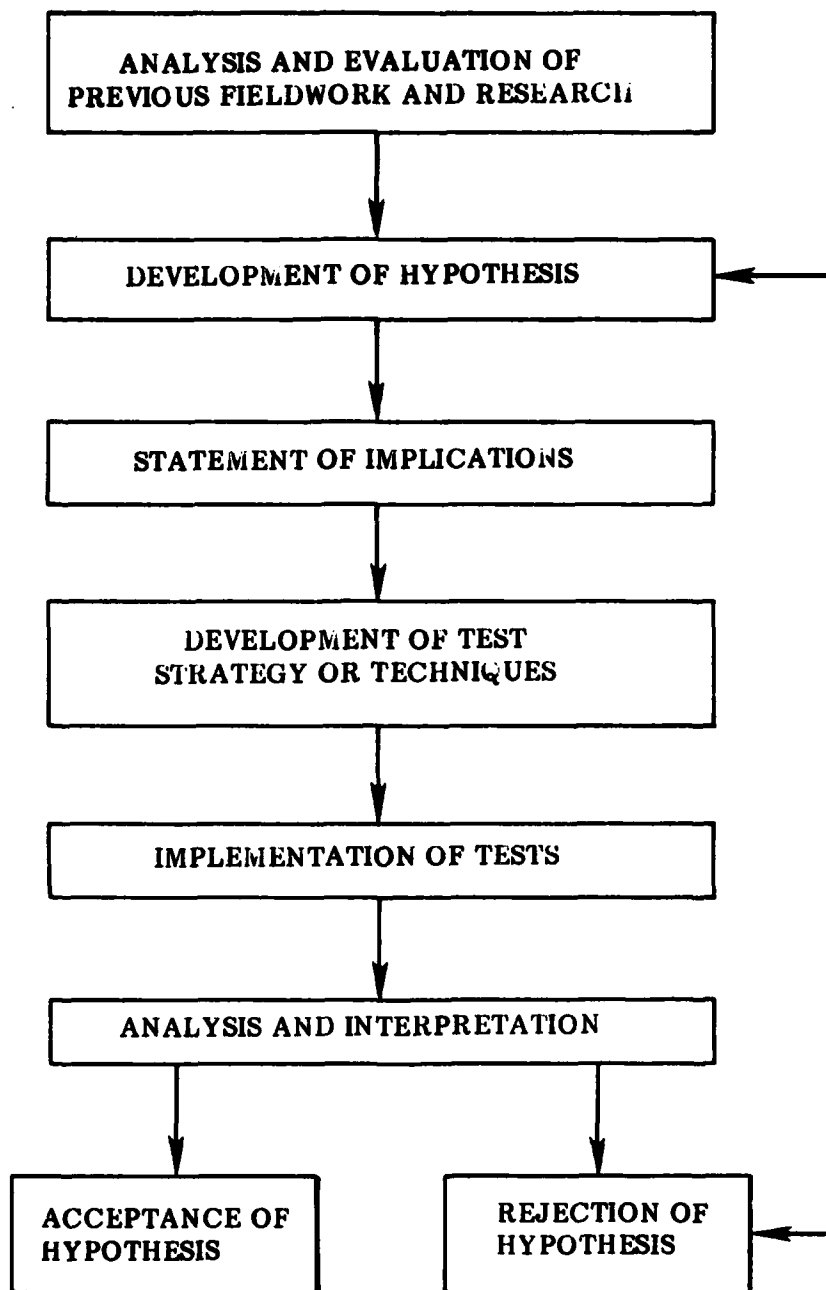
## SECTION 4

### RESEARCH DESIGN

In recent years, many archaeologists and archaeological researchers have attempted to move closer toward explanation of prehistoric cultural systems, and away from simple description of prehistoric artifacts and features (Fritz and Plog 1970:405-412; Kushner 1970:125-132; Binford 1964:245-441). One tool of these explanation-oriented archaeologists is a formalized research design based on deductive reasoning. Although past excavators and researchers no doubt possessed and used implicit or self-understood empirical research designs, recent efforts have been directed toward stating explicit questions, hypotheses, tests, and explanations as part of a hypothetico-deductive approach to archaeological data and cultural processes.

The overall intent of a research design is to provide a definable, logical and systematic approach to answering specific questions through the generation of ordered data. Questions are posed based on previous fieldwork and research, hypotheses are formulated to explain or clarify cultural conditions, and test implications are formulated to ensure that data are collected in a manner that is dictated by the questions to be answered and by the type of data one hopes to generate. The research or sampling strategy is developed out of the hypotheses, test implications, and specific needs of individual research goals. A suggested flowchart for one type of research design is shown in Figure 3.

Because the surface mapping and limited test unit excavation on the San Luis Rey drainage were preliminary efforts geared toward assessing the horizontal and (partial) vertical distribution of cultural debris, determining the archaeological significance of the site in an overall regional context, and documenting the potential for



Research Design Flow Chart

**FIGURE  
3**

adverse impacts, no formalized research design was implemented. As noted in Section 9.8 of this report, it is now possible to formulate valid research questions that can be tested at the next level of investigation and analysis.



## SECTION 5

### FIELD TECHNIQUES

Subsurface testing was conducted at sites W-1832, W-1833, W-1835, W-1836, W-1837, W-1838, and W-1839. The site mapping, surface collection, and test unit excavation of cultural resource deposits within the project area were to achieve the following goals: description and evaluation of the areal extent, depth, and potential significance of cultural resources (archaeological and historical) located within the flood control right-of-way. A major objective of the test program was to obtain a data base upon which to determine the nature of the assorted cultural resource deposits, and propose a mitigation program based upon test results so as to minimize project impact. To fulfill the goals, as is stated by Army Corps of Engineers guidelines, it was necessary to conduct three different modes of field investigation: 1) accurate plotting of site surface dimensions, artifact concentrations, surface disruption and on-going impacts; 2) sample surface collection of artifact debris (culturally diagnostic), 3) limited subsurface testing to examine the potential for subsurface cultural deposits.

#### 5.1 SITE MAPPING

A thorough mapping of the apparent site boundaries was conducted using a standard transit and metric stadia rod. Initially it was necessary to make an intensive walk-over of each site to redefine areal site extent. Once a resurvey of each archaeological site was completed, site boundaries determined by surface cultural debris were marked in the cardinal direction (e.g., N, S, SW, etc.), using three-foot long wooden stakes. The demarcated site boundaries were then given instrument location, utilizing the aforementioned transit and stadia rod, insuring accurate location of cultural resource borders and appropriate "landmarks" (i.e., telephone poles, existing structures, fly-over points, etc.) necessary for construction of site maps.



Station points for the mapping operation were chosen so as to give unhindered visual access to all points to be shot-in. In the instance of sites W-1832 and W-1835, dense vegetation precluded efforts to establish survey reference points in as detailed a manner as outlying archaeological locales. Nonetheless, it is felt that basic accurate site locations have been achieved.

## **5.2 SURFACE COLLECTION**

Surface collection of cultural material was completed at sites W-1833 and W-1838. Visible surface artifact concentration (excluding shellfish) were not noted at the remaining sites.

The paucity of surface cultural material at W-1832, W-1835, W-1836, W-1837, and W-1839 can be explained by a combination of activities, they include: 1) significant cultural material (i.e., ceramics, lithics) were not deposited in noticeable quantities at the time of occupation; 2) floodwaters have buried or seriously altered spatial and/or vertical extent of cultural material (most likely at W-1832, W-1835, and W-1836); 3) surface material at sites on the margins of the floodplain (with the exception of an occasional lithic) are overgrown with thick vegetation obscuring most, if not all, artifacts (W-1837 and W-1839); 4) relic collection and related floodplain alterations (past-farming, grading) have seriously removed and disrupted site integrity (all sites under study).

Of the cultural resource deposits located within the current study, W-1833 and W-1838 contained the only evidence of potentially relevant information to be gleaned from a surface collection. A micro-mapping technique was implemented at each site. Individual artifacts were flagged and their location determined by transit coordinates. Once accurate artifact location was achieved, the individual artifact was numbered, bagged, and upon completion of site mapping, returned to the WESTEC laboratory for

the river channel in this area (to approximate depth of four feet) buried a considerable extent of the site area. A single shell fragment and flake were the only remaining surface evidence. The posthole placed in the area remembered as containing the greatest artifact concentration proved negative. The posthole was excavated to 30 cm. There was no sidewall material or stratigraphy.

#### 5.4 CATALOGING AND LABORATORY ANALYSIS

Cataloging procedures followed those currently in use at local universities and other institutions. All artifacts were washed, dried, given preliminary analyses, weighed, measured and categorized within a typological framework.

Data, along with other relevant information, were entered on standardized catalog cards, an example of which is provided below:

### ARTIFACT CARD

CATALOG NO _____	MATERIAL CLASS _____	MATERIAL _____
SITE _____	PIT _____	LEVEL _____ DEPTH _____
OBJECT _____	QUANTITY _____ @ _____	GMS _____
COLOR _____	SHAPE _____	DECORATION _____
LENGTH _____ CM	WIDTH _____ CM	THICKNESS _____ CM
TECHNIQUE _____		
CULTURE _____ DATE OR PERIOD _____		
CONDITION _____		
REMARKS _____		
IF SHELL: HINGES L: R: BURNED: (NUMBER)		
FOUND BY _____ DATE: _____ PHOTO _____		
NOTE: INCLUDE DRAWING ON OTHER SIDE. STRIKING PLATFORM: L: CM W: CM		
PATINATION: _____ CORTEX: _____ YES <input type="checkbox"/> NO <input type="checkbox"/>		

classification. The relative scarcity of surface artifacts precluded use of a grid system, dog-leach technique, or any number of surface collection alternatives. The micro-mapping implemented at W-1833 and W-1838 thus provided accurate location and an economical retrieval of cultural remains encountered at these locales.

### 5.3 TEST UNIT EXCAVATION

A single 1x1 meter square test unit was excavated at W-1833, W-1835, W-1836, W-1837, W-1838, and W-1839. Each unit was manually excavated in arbitrary non-stratified 10-centimeter intervals, excavated material was passed through 1/8-inch hardware mesh cloth. All recognized cultural material was then bagged by level. A daily field log being maintained to document excavation procedure and findings. Sketches of unit wall profiles, soil sample collection, and photographic record of each completed unit terminated the field phase of individual units. Manual backfilling of units not considered necessary for further study (i.e., lacking in sufficient cultural debris, no noticeable stratigraphy, or other redeeming qualities) was conducted at W-1835, W-1836, and W-1839. Test units at W-1833, W-1837, and W-1838, upon completion, were covered with 1/4-inch, 1.5 meter square plywood and camouflaged using backfill dirt and surrounding vegetation. These particular units were treated in this manner so as to allow future analysis and/or visual inspection of stratigraphy, taking of additional photographs, further soil removal, etc. Backfilling of these units will have been completed prior to publication of a final report.

Subsurface investigation of W-1832 was restricted to excavation of a single posthole. Site conditions have measurably changed since the initial recording of the site (Carrico and Franklin 1978:25-28). At the time, a more extensive inventory of cultural material (sherds, shell, miscellaneous historic items, burnt bone) was documented. Subsequent winter rains and movement of large quantities of alluvium along

## SECTION 6

### FIELD INVESTIGATION RESULTS

Preliminary investigation of seven archaeological sites encountered within the Army Corps of Engineers planned flood control channel, revealed an area subject to disruption brought about by season flooding, by past agricultural activity, and industrial development. Despite the irreversible impacts, meaningful site information has been secured.

Combined recovery totals of all cultural material encountered at the current phase of investigation include 5,354.21 grams of shellfish and 822 items of either prehistoric manufacture, historic construction, or ecofact material. A breakdown of artifact totals will be presented on a site-by-site basis.

#### 6.1 SITE MAPPING

Field sketches for the sites discussed below are provided in Figures 4 through 10. The following sites were mapped and sketched.

- W-1832 (ACE-1)
- W-1833 (ACE-2)
- W-1835 (ACE-4)
- W-1836 (ACE-5)
- W-1837 (ACE-6)
- W-1838 (ACE-7)
- W-1839

##### 6.1.1 W-1832

The resource measured 57.15 meters along its east/west axis by 15.24 meters north/south (Figure 4). Site boundaries were determined by consultation with

**W-1832**

**LEGEND**

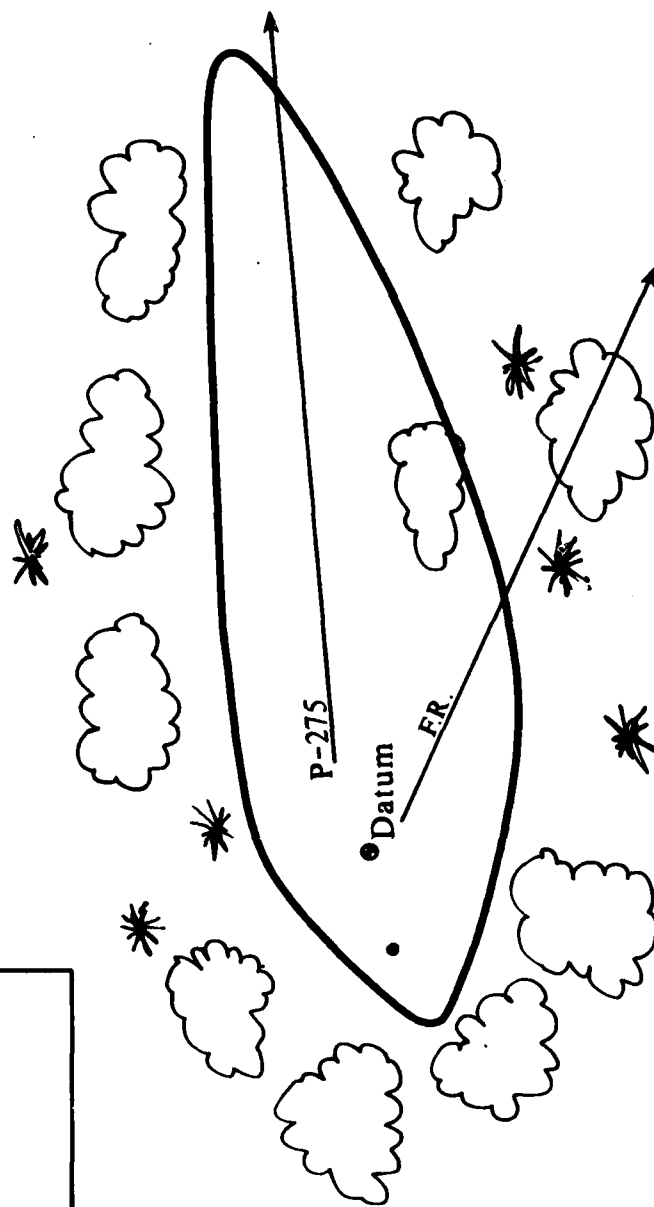
Site Boundaries

Auger Hole

Powerline Perpendicular  $80^{\circ} 30'$  @ 275 ft.

Dense Riparian Habitat

Firing Range  $\frac{1}{4}$  mile



**FIGURE**

**4**

Site Map W-1832

site survey form sketch map. Due to site location along the flood channel, spatial borders are dictated in any given season by the degree of flooding.

**6.1.2      W-1833**

The resource measure 114.33 meters southwest/northeast by 68.60 meters northwest/southeast (Figure 5). As a result of excellent ground visibility at the time of investigation site mapping efforts were greatly facilitated, reflecting precise artifact locations as depicted in Figure 5.

**6.1.3      W-1835**

Seasonal movement of sand and silt have created an extremely ambiguous deposit, rendering any analysis of data based upon surface dimensions irrelevant. Nonetheless, via consultation with the site survey sketch and current surface distribution of debris, site dimensions are as follows: 41.92 meters southwest/northeast by 15.24 meters northwest/southeast, Figure 6. Dense riparian vegetation (willows, nettles) precluded efforts to survey the area in an extensive a manner as other resource deposits.

**6.1.4      W-1836**

Shellfish can be observed in sparse quantities covering an area of 175.30 meters southwest/northeast by 68.60 meters north/south, Figure 7. Site areal extent is the largest of any other cultural resource presently under study.

**6.1.5      W-1837**

This particular cultural resources areal extent measures 30.49 meters east/west by 24.70 meters northwest/southeast (Figure 8). In terms based solely upon distribution of surface material, the site is the smallest of all resources under current investigation. The sites relative smaller surface size in no way reflects subsurface content, evident in the excavation of a test unit to a depth of 110 cm.

1. Hammerpounder  
Fragment
2. Hammerpounder
3. Metate Fragment
4. Hammerpounder  
Fragment &  
Shard
5. Hammerpounder
6. Hammerpounder
7. Chopping Tool
8. Chopping Tool
9. Hammerpounder
10. Sidescraper
11. Hammerpounder  
Fragment, Core,  
Flakes, Debitage,  
Sherds, Chopping  
Tool, Shellfish,  
and Historic  
Debris (Ceramics  
& Metals)

ROAD 2 MILES ROAD

U  
scattered  
shell

Dugout

0 Feet 57  
Meters 20

1  
N

Site Map W-1833 and Footprint of the Land

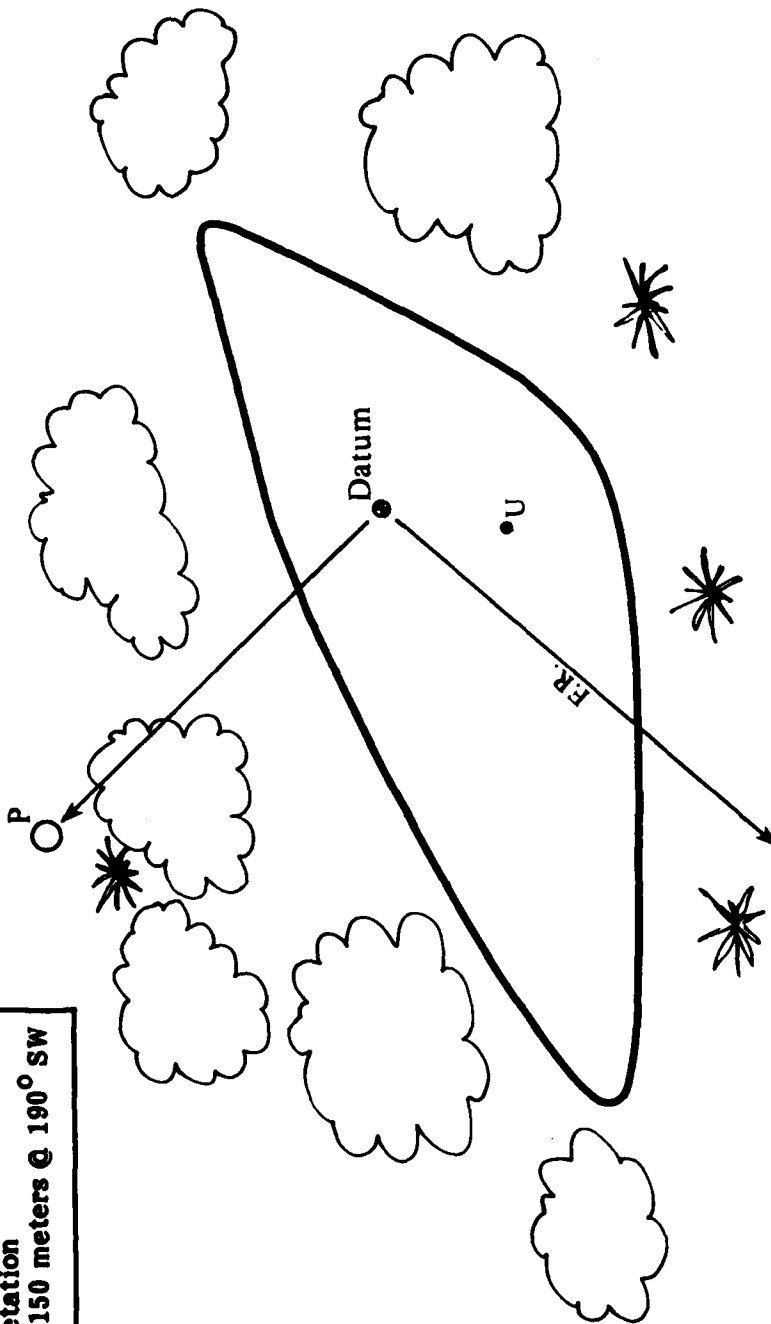
FIGURE 1

15

**W-1835**

**LEGEND**

- Site Boundaries
- U NW Corner Unit 1m x 1m
- P Cement Pipe 318 $\phi$  30'
- ☁ Riparian Vegetation
- F.R. Firing Range 150 meters @ 190 $^{\circ}$  SW



**FIGURE 6**

Site Map W-1835 and Associated Features of the Land



W-1836

**LEGEND**

— Site Boundaries

U • Unit NW Corner 1m x 1m

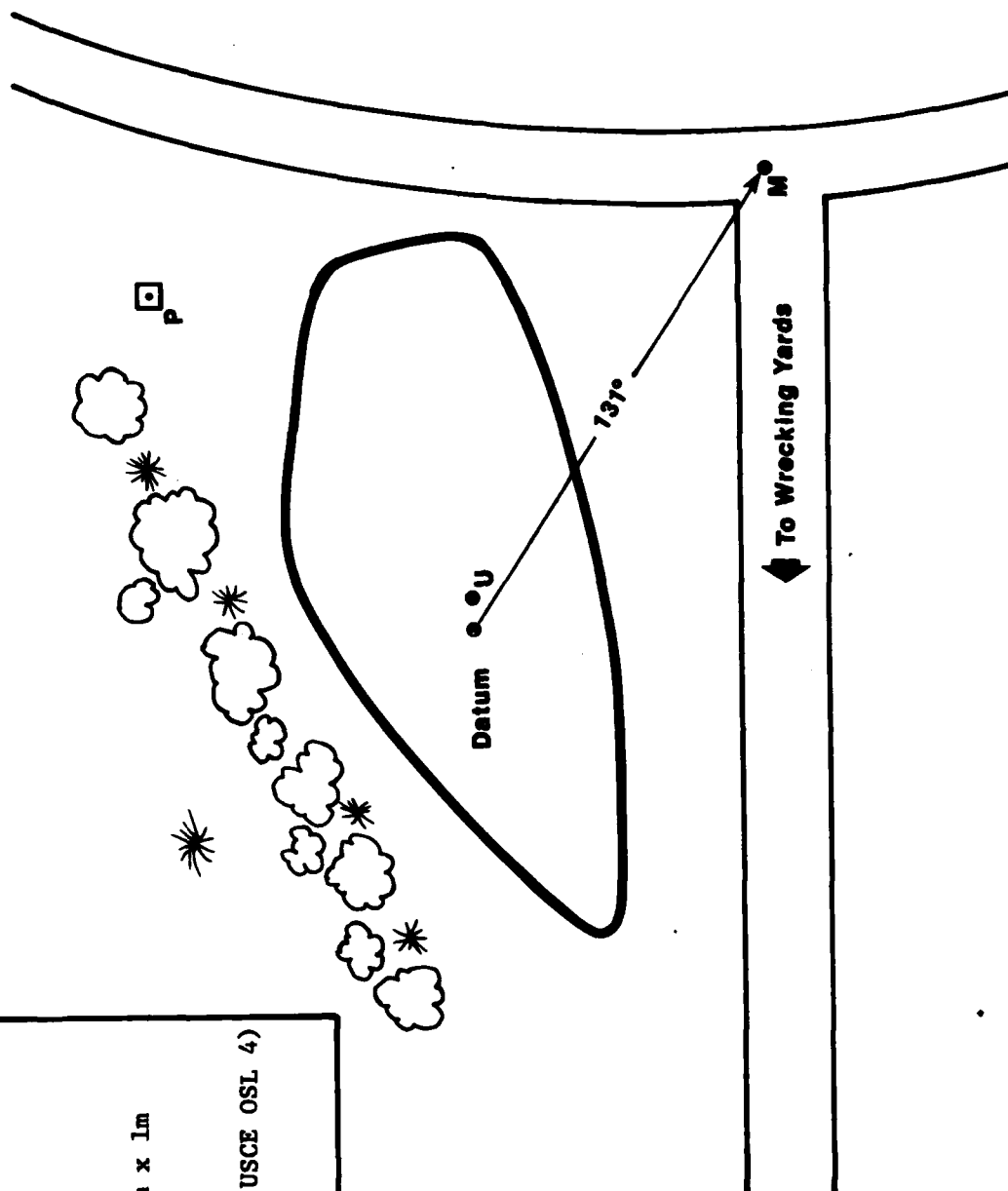
P • Pumphouse

M • Marker in Road

West of Runway

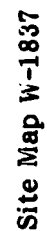
(L.A. Dist. 1979 USCE OSL 4)

☁ Riparian Area



**FIGURE 7**

Site Map W-1836



**6.1.6      W-1838**

This cultural resource deposit measures 129.58 meters southwest/northeast by 91.46 meters east/west (Figure 9). The area of greatest subsurface potential can be encountered immediately south of the test unit, in an area of extremely dense ruderal vegetation.

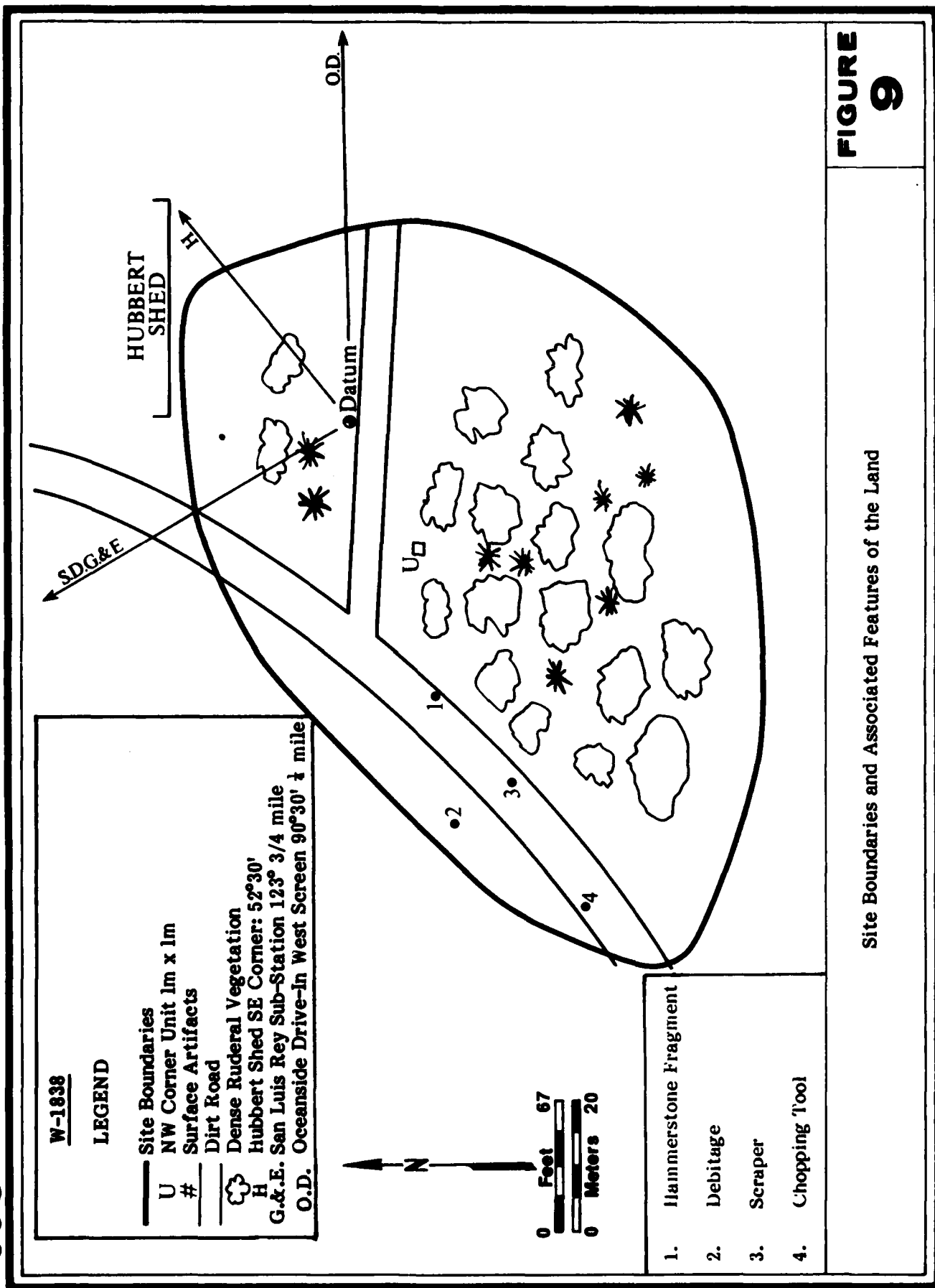
**6.1.7      W-1839**

Areal extent of the site is as follows: 99.09 meters by 45.73 meters north/south (Figure 10). Site alteration in the southern margins may have occurred as a result of alluvium removal during burrowing operations in the area, thereby reflecting an unmeasurable loss of resource area from its original state.

**6.2      SURFACE COLLECTION**

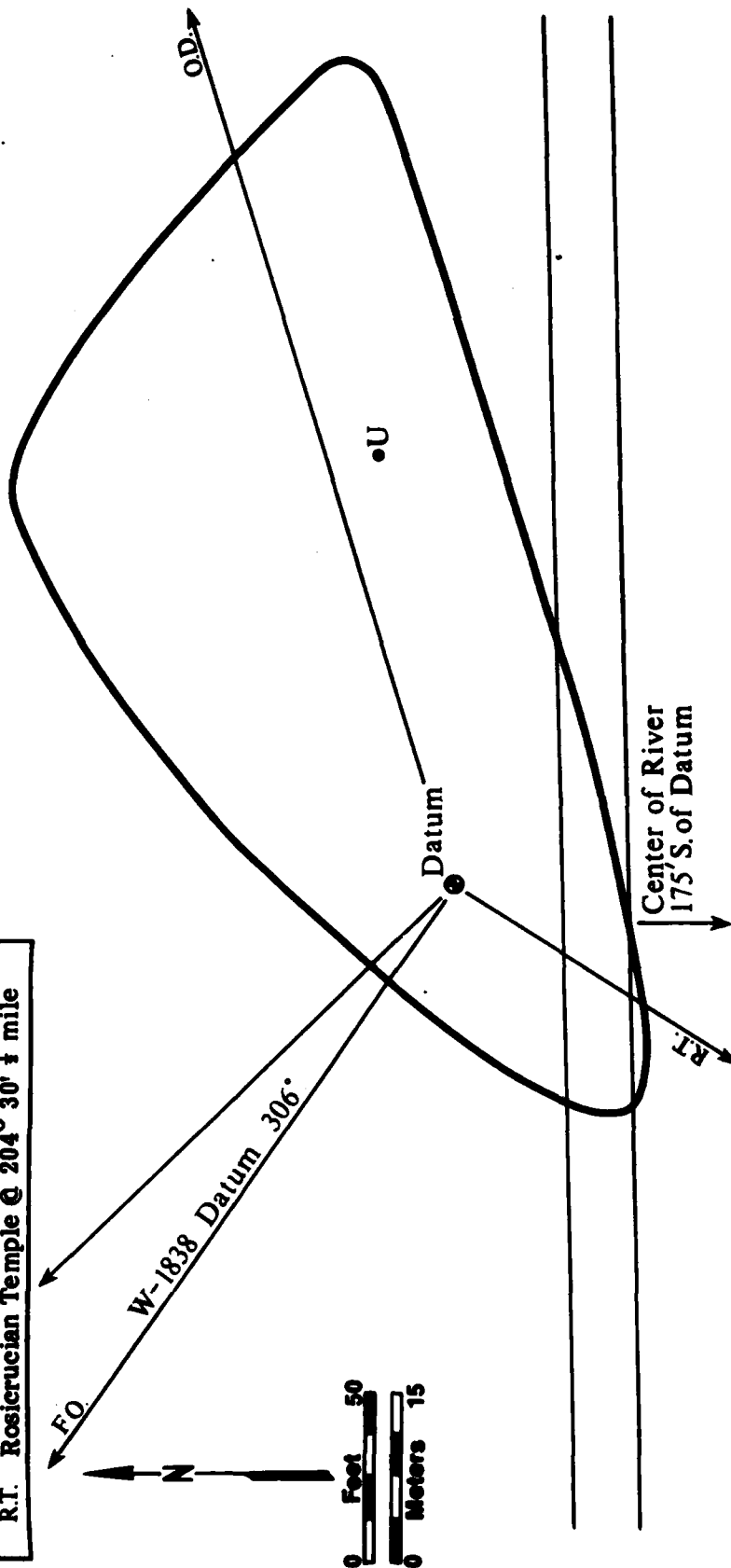
**6.2.1      W-1833**

Micro-mapping of this resource (refer to Section 5.2 for a discussion of collection method) resulted in the recovery of a total of 127 items. As noted in the original survey manuscript (Carrico and Franklin 1978:28) the presence of old historic glass and porcelain mixed with prehistoric artifacts observed on the surface at that time may serve as a link to transitional lifestyles of native Americans living within the San Luis Rey River drainage circa 1880. A total of 97 items of historic manufacture were collected and have been analyzed by Steven Van Wormer. Presentation of analysis of the historic data is provided in Section 6.4 of this report. Lithic materials obtained during the surface collection operation included: a single mano fragment (unifacial), one metate fragment, 5 flakes (one of desert chert), 8 debitage, 1 core, 6 hammer-pounders (Figure 11), 3 chopping tools, 1 sidescraper, 1 bone, and 3 Tizon Brown Ware sherds.



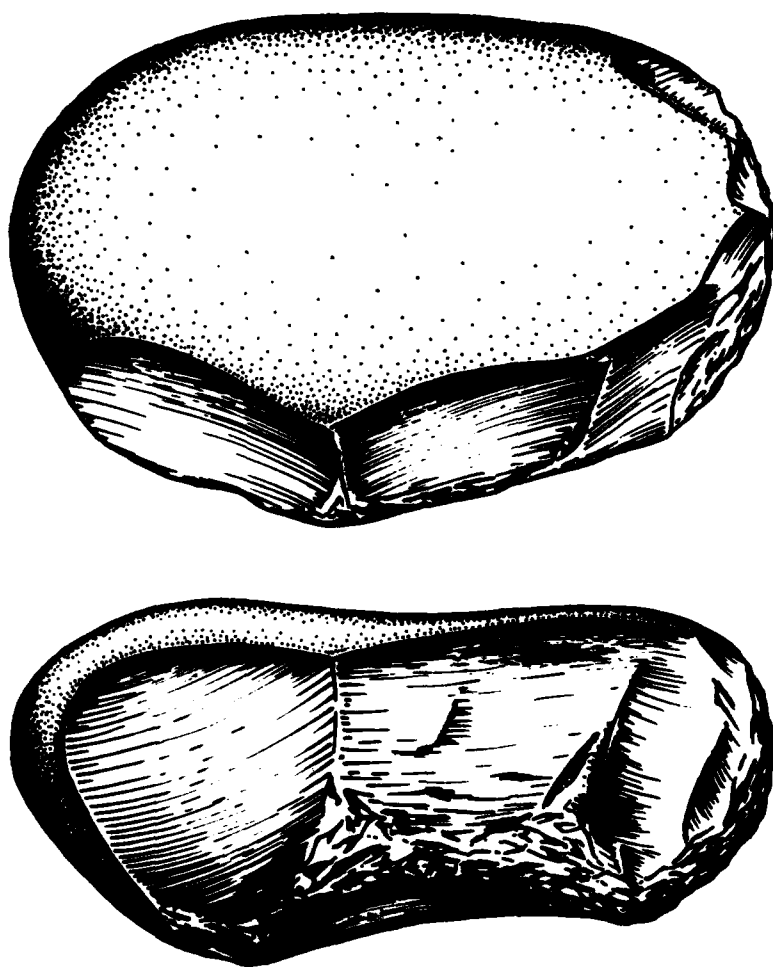
**LEGEND**

- Site Boundary
- U NW Corner Unit 1m x 1m
- Dirt Road
- FO Fly-Over Stake 289°
- OD Oceanside Drive-In West Screen 85° 30'
- R.T. Rosicrucian Temple Q 204° 30' ± mile



**FIGURE 10**

Site Map W-1839



*J. Haskin*

Surface Hammerpounder, W-1833

**FIGURE  
11**

Historic debris were encountered sporadically upon the knoll, with the greatest concentration eroding out and down the southeastern slope. Many of the artifacts observed during the initial survey were relocated with little effort, site impact has been minimal, periodic grazing of livestock preventing luxuriant growth of seasonal grasses so frequently encountered in the majority of areas within the floodplain and adjacent foothills.

#### 6.2.2 W-1838

Recovery of significant surface artifact material from this site was obscured by extremely dense successional plant growth, i.e., tumbleweeds, horseweed, several grasses, and datura vines. Clearing of site vegetation would have consumed many hours of allotted field time necessary for overall project completion.

In the process of site mappings, an occasional tool was observed along a recently graded road and within backfill material generated from the grading operation. While not present in significant amounts, the quality of the material and possible cultural affinity mandated artifact collection prior to removal by area relic collectors.

A total of 4 items were mapped within the disturbed northwest/west site area (Figure 9). The recovered items included a single debitage (of chalcedony), one hammerpounder, one scraper, and a cobble chopping tool.

Future field investigation of the site with regard to surface material and related collection methods should await removal of the plant growth. A large tractor equipped for removal of thick vegetation will be required.

#### 6.3 TEST UNIT EXCAVATION

Placement of all test units for each archaeological deposit was determined by two major considerations: 1) excavation of test units was conducted in site areas most likely to receive project impact; and 2) test unit selection was directed toward

excavation as well as a range of recovering cultural debris as possible. Concentrated debris recovery methods are also a valuable consideration as a relative indicator of materials content and context.

### 6.3.1

#### Excavation

The unit was excavated at this deposit uncovering cultural material in excess of 120 cm. Preliminary analysis of site data indicates post-contact (1800) native American occupation in the upper levels (to an approximate depth of 30 cm), with an underlying prehistoric occupation (Tables 1 and 2).

Analysis of historic material recovered from the site and prepared by Steve Van Wormer is presented in Section 6.4.

Subsurface recovery of 91 cultural items from the unit levels include: 4 flakes, 8 debitage, 3 ceramic sherds, 33 bone fragments, and 43 miscellaneous historic items. Shellfish totaled 97.3 grams. Shell species include Donax (1 percent), Chione (50 percent), Pecten (9 percent), oyster (5 percent), abalone (1 percent) and unidentifiable shell (25 percent) (Table 3). Extensive rodent activity was documented within the unit; minute historic debris was encountered to 50-60 cm. Explanation as to cause for depth of intrusive material may be accounted by burrowing actions of rodents. The condition of the shellfish was of a highly calcified and friable state, as evidenced by the 25 percent gram total for unidentifiable shell species.

Soil in this particular site area consisted of a compact gray silty loam (2.5 yr 6/0 on the Munsell soil chart) to 20 cm. As unit depth was increased, soil maintained the silty texture but was no longer compact. Color change was also in evidence with increased depth, the gray making a gradual transition to a brown (2.5 yr 4/1).

Upon completion of the 60-70 cm level, a decision was made to terminate unit excavation at that point, wherein a single posthole was dug in the northwest



Table 1  
HISTORIC ARTIFACT DISTRIBUTION, W-1833

ARTIFACT	SURFACE	0-10 cm.	10-20 cm.	20-30 cm.	30-40 cm.	40-50 cm.	50-60 cm.	TOTAL
Glass	67	3	1	1	6	-	2	80
Metal	5	-	-	2	19	3	-	29
Ceramic	24	-	-	-	-	-	-	24
Tizon Brown Ware	2	-	-	2	-	1	-	5
Bullet	-	-	1	-	-	-	-	1
Button	-	-	-	-	1	-	-	1
TOTAL:	98	3	2	5	26	4	2	140

Table 2  
W-1833, CULTURAL DEBRIS FROM UNIT 1

	SURFACE	0-10 cm.	10-20 cm.	20-30 cm.	30-40 cm.	40-50 cm.	50-60 cm.	60-70 cm.	TOTAL
Mano	1								1
Metate	1								1
Flakes	5				1	3			9
Debitage	8			4	3	1			16
Cores	1								1
Hammer/Pounder	6								6
Chopping Tool	3								3
Sidescraper	1								1
Ceramic	3		2			1			6
Bone	1			5	22	1		5	34
Historic	97	4	2	4	27	4	2		140
TOTAL:	127	4	2	15	49	10	3	8	218

Table 3  
W-1833, SHELL PRESENT IN UNIT 1  
(weight in grams)

SURFACE	0-10 cm.	10-20 cm.	20-30 cm.	30-40 cm.	40-50 cm.	50-60 cm.	60-70 cm.	70-120 cm.	TOTAL PERCENT
Donax	-	-	-	-	.2	-	.1	-	.30
Chione	-	4.5	5.4	3.8	6.5	5.0	21.6	5.9	57.00
Pecten	-	.1	-	.1	1.3	.1	5.2	.1	9.50
Oyster	-	-	-	-	-	.3	4.1	-	4.40
Unidentified	-	1.4	1.9	1.6	3.9	6.7	8.0	.1	25.60
Abalone	.5	-	-	-	-	-	-	.5	.01
TOTAL:	.5	6.0	7.3	5.5	11.7	12.1	39.0	6.1	97.30
									100.00

quarter of the unit floor. It was determined from the retrieved material and inspection of the posthole sidewalls that culturally deposited material was present to a depth in excess of 120 cm.

Research potential on this site and use of extracted data will be invaluable for future study concerning prehistoric subsistence and settlement, the subsequent disruption of traditional lifeways, and native American cultural adaptability in reaction to pressures of acculturation.

#### 6.3.2 W-1835

Excavation of the test unit (to 30 cm) at this locale revealed an area highly impacted by flooding of the San Luis Rey River. The location of the site within the immediate river channel, the highly disrupted horizontal and vertical site content, paucity of qualitative prehistoric data indicate a resource area devoid of research value as a result of the above factors.

Site creation via secondary deposition (i.e., flood deposit material from an upstream location) must be considered.

Results from the excavated unit at W-1835 include: 4 bone fragments, 31 miscellaneous historic items (cement, brick, and fiberboard) (Table 4), and a total of 21.3 grams of shellfish. Shell species include Donax (59 percent), Chione (20 percent), Pecten (19 percent), oyster (1 percent), and unidentifiable shell (1 percent) (Table 5). The unit was excavated in pure sand, maintenance of straight sidewalls, or level unit floors was an impossibility. Intensive resurvey of the site area did not relocate the single surface Tizon Brown Ware fragment noted during the initial 1978 survey.

Movement of silt and sand in large quantities within the site area accounts for site alteration (i.e., artifact removal, burial, and reburial). Due to site location, disrupted spatial context, research objective and/or additional migration measures are deemed unnecessary at W-1835.

**Table 4**  
**W-1835, CULTURAL DEBRIS FROM UNIT 1**

	0-10 cm.	10-20 cm.	20-30 cm.	TOTAL
Bone	-	3	1	4
Historic	2	12	17	31
TOTAL:	2	15	18	35

Table 5  
W-1835, SHELL PRESENT IN UNIT 1  
(weight in grams)

	0-10 cm.	10-20 cm.	20-30 cm.	TOTAL	PRESENT
Donax	2.8	3.0	6.7	12.5	.59
Chione	.9	-	3.3	4.2	.20
Pecten	.1	.5	3.4	4.0	.19
Oyster	.3	-	-	.3	.01
Unidentified	-	.2	.1	.3	.01
TOTAL:	4.1	3.7	13.5	21.3	100.00

#### 6.3.3 W-1836

The unit at this location was excavated to a depth of 70 cm. Cultural debris and shellfish from the unit totaled 3 bone fragments (Table 6) and 15.2 grams of shell material, respectively: Donax (43 percent), Chione (37 percent), Pecten (16 percent), oyster (1 percent), and unidentifiable shell (3 percent) constituted species percentage breakdown (Table 7).

As noted in the survey manuscript (Carrico and Franklin 1978:30), the deposit is subject to seasonal flooding, indicating a high probability of site creation by secondary deposition. Suspension of light shellfish debris (taken from upstream deposits) within the moving silt and sand during flood stages may conceivably account for a deposit lacking common site diagnostic traits. Cross-comparison of the W-1836 deposit with that of W-1838, an exemplary deposit on the floodplain margin, reveal marked contrasts.

W-1836 lacks the following characteristics common to a primary resource area: darkened soil or presence of charcoal, lithic material, ceramics, nor noticeable stratigraphy. The overall sparseness of shellfish over such a large areal extent (175.30 X 68.60 meters) and based upon test unit excavation, lends credence to the hypothesis that shellfish remains have been redeposited at this location at some unknown point in time during flood stage conditions.

#### 6.3.4 W-1837

Sites located on the floodplain margins (W-1837, W-1838, and W-1833) have been ensured moderate degrees of protection from all but the most devastating flooding. The sites situated in the area, as depicted on the general project outline, may receive indirect project impact.

**Table 6**

**W-1836, CULTURAL DEBRIS FROM UNIT 1**

	<b>0-10 cm.</b>	<b>10-20 cm.</b>	<b>20-30 cm.</b>	<b>30-40 cm.</b>	<b>TOTAL</b>
<b>Bone</b>	<b>1</b>	<b>1</b>	<b>-</b>	<b>1</b>	<b>3</b>



Table 7

W-1836, SHELL PRESENT IN UNIT 1  
(weight in grams)

	SURFACE	0-10 cm.	10-20 cm.	20-30 cm.	30-40 cm.	40-50 cm.	50-60 cm.	60-70 cm.	TOTAL	PERCENT
Donax	-	1.4	2.8	.7	.7	.6	.1	.3	6.6	.43
Chione	-	-	-	-	-	5.6	-	-	5.6	.37
Pecten	.8	.1	1.5	-	-	-	-	-	2.4	.16
Oyster	.1	-	-	-	-	-	-	-	.1	.01
Unidentified	-	.1	.2	0	.1	0	.1	0	.5	.03
TOTAL:	.9	1.6	4.5	.7	.8	6.2	.2	.3	15.2	100.00

The most obvious site disturbance at W-1837 has been inflicted by recent disc plowing and periodic grading of a dirt road. Discing of site area was noted in the daily field record by crew members to a depth of 7 cm below the ground surface. The test unit at this location was excavated to a depth of 110 cm in a fine alluvium soil. Color ranged from a gray/brown (5 yr 5/1) 0-10 cm, to a brown (5 yr 3/2) in the remaining level.

Termination of the unit at 110 cm was not based upon the lack of cultural material (64.4 grams of shell obtained at 100-110 cm), but rather the difficulty of working within such limited space at depths requiring extreme care so as not to cave in delicate sidewalls. Combined weight in shellfish totaled 644.10 grams. Donax (64 percent), Chione (3 percent), Pecten (5 percent), oyster (25 percent), razor clam (1 percent), and unidentifiable shell (1 percent) constituted the shellfish species taken from the unit levels (Table 8).

Cultural debris recovered included 3 flakes, a single chopping tool, and 6 bone fragments (Table 9). A single chopping tool (Figure 12) was taken from 30-40 cm. Flaking material did not exceed depths of 60-70 cm. Bone was obtained to a depth of 90-100 cm. Charcoal appeared sporadically throughout the unit, but never in measurable concentrations.

#### 6.3.5 W-1838

In terms of quantitative and qualitative information, this cultural resource area offers the greatest potential of sites within current study.

Excavation of a single test unit at W-1838 revealed a fire-darkened, shellfish laden midden band extending from ground surface to an approximate depth of 50 cm. This dark gray midden (10r 4/1 on the Munsel soil chart) was a well-defined stratigraphic level, in marked contrast to the underlying white sand layer. Corres

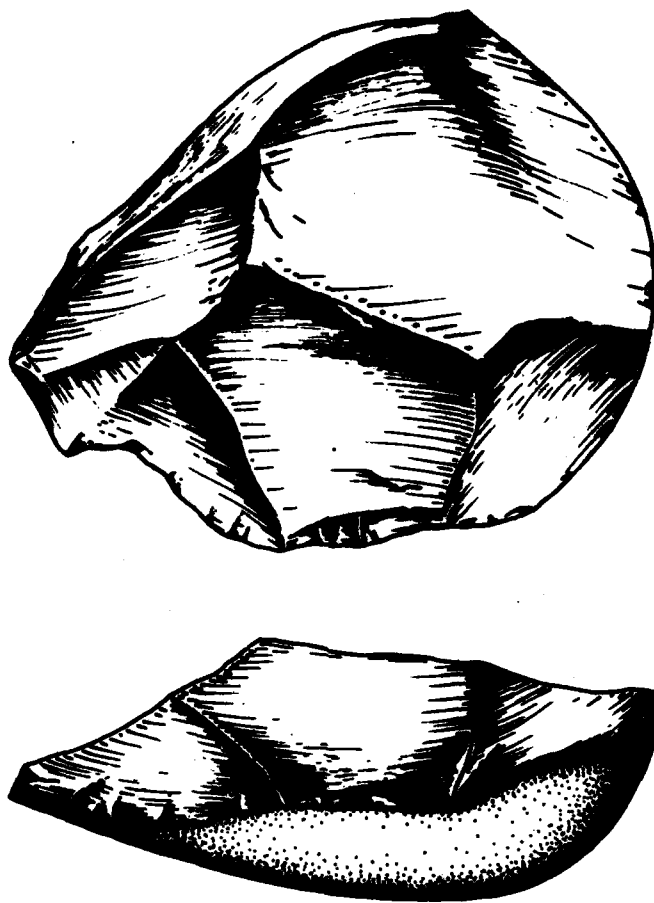
Table 8  
W-1837, SHELL PRESENT FROM UNIT 1  
(weight in grams)

	0-10 cm.	10-20 cm.	20-30 cm.	30-40 cm.	40-50 cm.	50-60 cm.	60-70 cm.	70-80 cm.	80-90 cm.	90-100 cm.	100-110 cm.	TOTAL PERCENT	
Donax	4.3	4.7	7.4	17.6	30.8	39.9	121.4	60.8	41.9	40.0	47.9	416.7	.64
Chione	-	-	-	-	3.6	1.6	1.9	1.2	-	5.3	3.4	17.0	.03
Pecten	2.5	.4	-	7.4	4.0	3.5	7.1	2.2	3.3	1.8	1.0	33.2	.05
Oyster	3.7	3.4	12.6	13.4	29.8	26.3	37.0	3.0	8.1	11.4	11.3	160.0	.25
Unidentified	1.4	4.2	3.0	.5	3.1	-	.5	-	1.4	.5	.8	15.4	.02
Razor	-	-	-	-	-	-	-	-	1.1	.7	-	1.8	.01
TOTAL:	11.9	12.7	23.0	38.9	71.3	71.3	167.9	67.2	55.8	59.7	64.4	644.10	100.00

Table 9

## W-1837, CULTURAL DEBRIS FROM UNIT 1

	0-10 cm.	10-20 cm.	20-30 cm.	30-40 cm.	40-50 cm.	50-60 cm.	60-70 cm.	70-80 cm.	80-90 cm.	90-100 cm.	TOTAL
Flakes	-	1	1	-	-	-	1	-	-	-	3
Chopping Tool	-	-	-	1	-	-	-	-	-	-	1
Bone	-	1	-	2	-	-	-	1	1	1	6
TOTAL:	-	2	1	3	-	-	1	1	1	1	10



*J. Haskin*

Chopping Tool, Unit 1, 30-40 cm, W-1837

**FIGURE  
12**

ponding with this visually demarcated occupation zone is a definite sudden statistical dropping-off of total shell and other cultural debris below 50-60 cm.

Site soil consists of a loose, fine loam in the upper deposit levels (0-50 cm), making transition to a coarser sand and pebble zone (60-70 cm), with a brown silty clay encountered from 90-100 cm.

The site location directly in front of the Hubbert ranch house (circa 1870s) indicate probable site plowing over an extended period. Conversation with the Deutsch Company's (present landowners) farm manager Bill Kabaker revealed information in which he confirmed site discing as recent as March, 1979 (personal communication 1979). Historic debris were concentrated in the greatest amounts within the top 30-40 cm, the recognized limits of the plow zone.

Regrowth of seasonal grasses, vines, etc., to heights of 3½ feet, and in places virtually impenetrable to foot travel, best explain the inability of field crews to obtain a substantial surface artifact collection without expending crucial field time and finances in vegetation clearing at the current phase of investigation.

Combined shellfish from all unit levels totaled 4,543.1 grams, with Donax (57.1 percent) dominating the major shell category. Other shell species and related unit level percentages include Pecten (25 percent), oyster (13.1 percent), Chione (3.6 percent), horn shell (1 percent), razor clam (2 percent), clam (1 percent), limpets (<1 percent), and unidentifiable shell (7 percent) (Table 10).

Additional cultural byproducts deposited at the site (from combined field methods) totaled 555 items (Table 11). The majority of cultural debris, i.e., lithics, ceramics, historic, bone, etc. were uncovered with the top 40 cm of the deposit. A total of 12 flakes, 25 debitage, a core, nondiagnostic biface, 5 Tizon Brown Ware fragments, a complete steatite bead, 424 bone fragments (burned and unburned), one

Table 10  
W-1838, SHELL  
(weight in grams)

	0-10 cm.	10-20 cm.	20-30 cm.	30-40 cm.	40-50 cm.	50-60 cm.	60-70 cm.	70-80 cm.	80-90 cm.	90-100 cm.	TOTAL
Donax	597.7	341.6	627.4	306.0	366.5	190.3	59.9	39.9	22.3	44.9	2596.5 (57.1%)
Pecten	127.4	215.3	357.4	192.9	141.7	58.2	15.0	2.2	13.9	13.0	1137.0 (25.0%)
Ostrea	35.7	99.6	233.5	105.7	57.6	37.3	4.4	6.7	2.9	13.7	597.1 (13.1%)
Chione	26.8	27.3	55.0	25.0	11.8	14.4	3.0	2.1	—	0.8	166.2 (3.6%)
Horn Shell	1.7	—	< 0.1	0.2	0.6	0.4	—	—	—	—	3.0 (0.1%)
Razor Clam	0.2	1.1	0.8	1.5	0.7	1.1	0.3	—	0.3	1.3	7.3 (0.2%)
Clam sp.	—	—	0.5	—	3.4	—	—	—	—	—	3.9 (0.1%)
Limpets	—	—	0.1	—	—	—	—	—	—	—	0.1 (0.1%)
Unidentified	0.1	3.2	4.1	21.6	—	2.8	—	0.2	—	—	32.0 (0.7%)
TOTAL:	789.6	688.1	1278.9	652.9	582.3	304.5	82.6	51.1	39.4	73.7	4543.1

Table 11

## W-1838, ARTIFACTS

SURFACE	0-10 cm.		10-20 cm.		20-30 cm.		30-40 cm.		40-50 cm.		50-60 cm.		60-70 cm.		70-80 cm.		80-90 cm.		90-100 cm.		TOTAL
	cm.		cm.		cm.		cm.		cm.		cm.		cm.		cm.		cm.		cm.		
Flakes			5	2	3	1									1					12	
Debitage	1	7	9	5	3														1		26
Core													1								1
Hammer-Pounder	1																				1
Scraper																					1
Non-Diagnostic Biface							1														1
Chopping Tool		1																			1
Pottery		3	1																1		5
Bead (steatite)							1														1
Bone		36	106	96	98	39					9		7		28	5					424
Ecofact		1 <sup>A</sup>	1 <sup>B</sup>								1 <sup>A</sup>				3 <sup>A</sup>						6
Historic		22	31	14	7										2						76
TOTAL:	4 Surface	69	153	117	113	40					10		8		33	6	2				555

A = hematite (pigment)  
B = quartz crystal



quartz crystal, 5 hematite fragments, and 76 miscellaneous historic items comprised the cultural assemblage within this very productive unit. Among the bone fragments recovered in the screening process included fish vertebra; vertebra analysis is provided as Attachment B.

Small flakes of charcoal were common in the top 50 cm, with a sample collected at 70-80 cm and sent for radiometric dating purposes. In addition, shell samples (30 grams per level) of Donax from 20-30 cm and 50-60 cm have also been sent for dating purposes.

The results of the radiometric dating are provided in Attachment D. In brief, the dates verified our hypothesis of late occupation at site W-1838 and probably for other sites in the immediate vicinity. The lowest level (70-80 cm) produced a date of 1335 A.D.  $\pm 70$  years and the upper levels (50-60 cm and 20-30 cm) produced dates of 1780 A.D.  $\pm 75$  years and 1785  $\pm 60$  B.P.

Pollen samples were taken from the test unit at W-1838 were analyzed and the data are presented in Attachment C. Samples were taken from the following levels: 0-10 cm, 20-30 cm, 40-50 cm, 60-70 cm, and 80-90 cm.

Discussion of possible intersite relationships, site function, etc., will be provided within Section 7.

#### 6.3.6 W-1839

Proximity of this resource to the river channel subject this site area to a higher degree of floodwater impact than in the case of W-1837 or W-1838. Despite inevitable site disturbance by natural forces, the deposit may have also had an unmeasured loss of its resource base along the southern portion as a result of sand burrowing operations. Discolored soil, scattered shell, and occasional flaking material noted in the original survey manuscript (Carrico and Franklin 1978:33) are disparate with actual unit level cultural debris gross totals.

Excavation of the test unit to a depth of 40 cm recovered a total of 34.2 grams of shell (Table 12). Neither lithics, bone, nor ceramics were obtained from the unit excavation. Soil was a fine loose loam, lacking an apparent stratigraphy. Shellfish species included Donax (76 percent), Chione (10 percent), Pecten (9 percent), oyster (4 percent), and unidentified shell species comprising 1 percent of the total.

#### 6.4 HISTORICAL ANALYSIS AND DISCUSSION OF ARTIFACTS ENCOUNTERED AT W-1833

Spatial Distribution: Historic artifacts recovered from W-1833 include glass, metal and ceramic fragments, as well as sherds of historic Tizon Brown Ware which exhibit a polished finish (Table 1).

Although the majority of the historic artifacts were collected from the surface, approximately 30 percent were recovered from the test unit in association with materials traditionally found on prehistoric sites. This association seems to indicate that the historic artifacts were used and deposited by the Luiseno Indians who occupied the site. Analysis of the glass, ceramics and Tizon Brown Ware, which are discussed below, give further indications of the use and deposition of these artifacts by the native Luiseno, rather than local Euro-American ranchers.

Glass: Seventy-four fragments of glass were recovered from the surface and test unit. Upon examination there did not appear to be any significant difference in age between the glass recovered from the test unit and the glass recovered from the surface of the site. All date from the last half of the 19th century.

Of the seventy-four fragments of glass recovered, twenty-two exhibit attributes which give a more specific indication of when the site may have been occupied. A beer bottle neck and a lip fragment, which exhibits a rounded collar with beveled ring lip finish, make up two of these diagnostic fragments. They indicate a date sometime after 1870, when beer bottle shapes became standardized (Munsey 1970:116). Another

Table 12  
W-1839, SHELL PRESENT IN UNIT 1  
(weight in grams)

	0-10 cm.	10-20 cm.	20-30 cm.	30-40 cm.	TOTAL	PERCENT
Donax	13.0	8.3	4.2	.6	26.1	.76
Chione	.7	2.7	—	—	3.4	.10
Pecten	1.3	1.5	.1	.1	3.0	.09
Oyster	.8	—	.4	.1	1.3	.04
Unidentified	.1	.2	—	.1	.4	.01
TOTAL:	15.9	12.7	4.7	.9	34.2	100.00

diagnostic piece is a neck fragment of black glass, which exhibits an applied slanted collar with a beveled ring lip finish. Stretch marks which run to the base of the lip indicate that the lip was applied by hand without the use of a hand lipping tool. This would indicate a date sometime before the mid 1880s, when the use of the hand lipping tool became universally adopted (Bente 1978:61). The remaining diagnostic fragments are nineteen pieces of sun colored, amethyst glass. Glass which will turn amethyst from exposure to the sun was manufactured between 1880 and the First World War (Kendrick 1966:57; Munsey 1970:55).

Therefore, the recovered glass indicates that the site was first occupied sometime between 1870 and the mid 1880s, and until sometime before the First World War. An absence of machine-made bottle fragments may indicate that the site was abandoned before 1906, when the automatic bottle making machine was introduced (Munsey 1970:33). However, the sample is too small to obtain a firm date. The time period indicated by the small number of glass fragments recovered can only be considered tentative until more testing is done. The only statement which can be made with some assurance of accuracy is that the comparatively large quantity of sun-colored glass indicates the site was occupied sometime between 1880 and 1914.

Sixteen glass fragments exhibited either modification by pressure flaking and/or wear from use as scraping or cutting implements. Fifteen of these fragments were recovered from the surface, while one was recovered from the 0-10 cm level of the test unit.

Because the majority of the fragments were recovered from the surface, caution was taken in determining which pieces showed actual pressure flaking or wear from use, and which exhibited alteration that may have been the result of breakage by grazing animals or agricultural equipment. Each fragment was examined with a 10x

hand lens. Those fragments which exhibited pressure flaking or wear from use as scraping or cutting implements showed alteration on only one or two continuous edges. The flake scars did not occur randomly, as would be expected on pieces that had been altered by agricultural activities, but exhibited uniformly placed scars along the edge of the fragment. Furthermore, the flaking scars were much smaller than scars produced by agricultural equipment or grazing animals, and the altered edges were covered by a thin layer of patination.

The glass fragments recovered, which exhibit evidence that they were probably used as tools by native Americans, indicate that the glass from this site reflects an activity distinct from that usually indicated by glass from historic sites occupied by Euro-Americans. Whereas glass recovered from Euro-American sites usually indicates consumption patterns, and may give some indication of economic status, the fragments of glass from W-1833 indicate the exploitation of discarded glass fragments by native Americans as a raw material for use in tool manufacturing. As such, they reflect a similar pattern discovered at W-569 (Carrico n.d.), an earlier contact site, and indicate recycling as described by Schiffer (1977:30).

Euro-American Ceramics: Twenty-six ceramic fragments manufactured by Euro-Americans were recovered. All were collected from the surface of the site. One fragment could not be identified. It has an orange paste and is glazed on both sides. The outside glaze is a clear gray, while the inside is a brownish maroon. Nine fragments are porcelain, and the remainder are ironstone. Three of the ironstone fragments exhibit floral designs.

Seven fragments show wear from utilization. The same criteria used for determining utilized glass fragments was used to identify utilized ceramics. Two of the utilized fragments were porcelain, and five were ironstone.

**Historic Aboriginal Pottery:** Five sherds of Tizon Brown Ware which exhibit surfaces finished by burnishing or polishing were collected. Two were collected from the surface, two from the 20-30 cm level of the test unit, and one from the 40-50 cm level. Polishing or burnishing the surface of Tizon Brown Ware appears to be a trait introduced to the Indians of southern California by the Spanish (May 1976:232-249; Greenwood 1978:15).

Polished sherds have been recovered from two other sites in the vicinity of the San Luis Rey River Valley. At SDi-5422 polished sherds were found in a context which date their use between 1790 and 1810 (Greenwood 1978:15; May 1978:28). Polished sherds of Tizon Brown Ware were also recovered at W-569 in a context that indicated a period of use and manufacture between 1800 and 1850 (Carrico n.d.; May n.d.). The occurrence of polished sherds of Tizon Brown Ware at W-1833, in association with the Euro-American historic material, may indicate the continuance of this practice after 1880.

**Metal:** Several metal objects were recovered which are listed and described below. **Rusted metal fragments** - 72.5 grams of rusted metal fragments were recovered from the test unit. **Brass** - One cylindrical shaped brass object which has been flattened was collected from the surface. **Tapered metal bar** - Three fragments of metal bars which are tapered on the ends were recovered. One was collected from the surface, the other two were extracted from the 20-30 cm levels of the test unit. **Brass Button** - A round brass button 2.5 centimeters in diameter was extracted from the 20-30 cm level of the test unit. Its face is covered with a silver-like metal which shows no oxidation. Impressed on the face is an eight-pointed star. In the center is a brass loop. It is the type of button that might have adorned a hat, belt, or saddle. **Bullets** - A .22 caliber slug was recovered from the 10-20 cm level of the test unit.

**Historical Data:** Historical documentation confirms that the area which has been recorded as W-1833 was occupied by Luiseno Indians after 1870. In 1873, Preston T. Hubbert homesteaded a portion of the San Luis Rey Valley. At this time there was an Luiseno rancheria on his claim. This rancheria may have been SDi-5133. Upon Preston Hubbert's arrival, the Indians moved northward settling near Whelan Lake on or very close to the John Summers' property (Jacques 1979a:3; 1979b:2). The location of W-1833 is on the edge of what was the John Summers property and in the general area described as being the location where the Indians resettled (Jacques 1979a:9). The relocation date of 1873 corresponds nicely to the time frame indicated by the glass fragments. It appears, therefore, that W-1833 is probably the rancheria which was said to exist near Whelan Lake and close to the John Summers' property during the 1870s.

A topographic map made in 1898 shows a structure on the location of W-1833 (Chace 1977:21). No evidence of this structure could be found. It may have been built by Luisenos, if they still inhabited the site at this time, or it may be a structure built by local ranchers.

**Summary and Conclusions:** The historic artifacts from W-1833 were found in association with traditional aboriginal materials. Therefore, the use of these artifacts by the Luisenos is speculated. Historic materials recovered include glass, Euro-American ceramics, post contact Tizon Brown Ware sherds with a polished finish, and miscellaneous metal objects.

The glass fragments indicate a tentative period of occupation sometime between 1870 and 1915, with good evidence for occupation between 1880 and sometime before the First World War.

A number of the glass and ceramic fragments exhibited pressure flaking and wear from use as scraping or cutting implements. Therefore, they do not reflect consumption patterns, or economic status. Rather, they indicate the adoption of Euro-American produced articles by the Luiseno, and the exploitation of discarded articles as a raw material for tool manufacture. A similar pattern was discovered at W-569 and described in detail by Carrico (n.d.). The utilized glass and ceramic fragments also reflect recycling as described by Schiffer (1977:30).

The sherds of Tizon Brown Ware which exhibit a polished finish are similar to sherds recovered from SDi-5422 and W-569. The sherds from W-1833, therefore, indicate the continued use of polished Tizon Brown Ware after 1880.

Finally, there is historic documentation which confirms that the area in the vicinity of W-1833 was occupied by Luisenos in the mid 1870s. Therefore, W-1833 is probably the Luiseno rancheria which was located on the edge of the John Summers' property in the 1870s.

In conclusion, data from the historic artifacts suggest that W-1833 was a late contact site inhabited by Luiseno after 1870. Historical documentation exists which may confirm this hypothesis.

Site Significance: As a late contact site, W-1833 is significant for several reasons. It indicates that the cultural pattern discovered at W-569 continued into the late 19th century. It also indicates the continued use of polished Tizon Brown Ware into the 1880s.

Further investigations at W-1833 should be directed towards answering the following questions:

1. Does W-1833 indicate a greater disintegration of Luiseno culture and a greater dependency on the Euro-American culture than was indicated at W-569?



2. Will analysis of Tizon Brown Ware sherds indicate a continued contact with mountain and desert tribes as described by May for W-569 and SDi-5422 (May n.d.; 1978)?
3. What was the significance of the structure indicated by the 1898 topographic map, and when was the site abandoned?

## SECTION 7

### INTERPRETATION AND DISCUSSION OF SITE SIGNIFICANCE

#### 7.1 INTRODUCTION

Preliminary analysis of site data coupled with regional site information (extracted from survey manuscripts, excavation reports, ethnographic observation, and historical accounts) tentatively classify native American occupation in (and adjacent to) the study area spanning the following periods:

<u>CULTURE</u>	<u>SITE</u>
La Jolla III/San Luis Rey I	SDi-5130
San Luis Rey II	W-1832, W-1833, W-1838, W-1839
Spanish Period — 1769-1832	Ethnographic accounts refer to area around W-1838, SDi-5130
Mexican/American Era — 1832-1900s	SDi-5133, SDi-5130, SDi-5131, and W-1833

Determination of site classification within this general time span outline should serve as a workable data base upon which to construct future research programs.

Definitive statements regarding settlement within the project area must take into account the fact that systematic and scientific explorations of the lower San Luis Rey River drainage was not extensive before 1977 (refer to Section 2.2, Previous Fieldwork) and that the field study does not reflect a rigorously controlled thermo-methodological program. Discussion of site interpretation, possible interrelationship of cultural resources within the project area will be analyzed according to the general chronological frame established within this text.

#### 7.2 LA JOLLA III/SAN LUIS REY I

While not directly threatened by flood channel development, and therefore not subject to preliminary testing at this phase of investigation, the "Mar Lado" site,

SDi-5130, merits serious discussion if any meaningful interpretation, settlement patterns, etc. are to be considered.

The site received initial recording by Christopher Drover (1977). Archaeological testing of a portion of the site has been conducted by WESTEC Services in response to the Mar Lado development (Carrico 1978). The subsurface investigation of the site occurred approximately 150+ meters northwest of the "core" deposit. From work done on SDi-5130, it is hypothesized that site occupation was by a small segment of a large La Jolla III or an early San Luis Rey I campsite.

A general cultural and temporal site indicator is the comparative analysis of shellfish species retrieved from the deposit. It appears that "SDi-5130 was occupied sometime after the major lagoon silting was well advanced, circa 3000 years ago, as evidenced by the lack of rocky/foreshore dwellers and the steady decrease of Pecten sp. throughout the site" (Carrico 1978:96).

It has been hypothesized that there may be direct correlation between site antiquity and ratio of Chione sp. to Pecten sp. Sites dated from 500 years ago to 1500 years ago show a remarkable predominance of Chione spp. Surface inspection of the main deposit at SDi-5130 on the lower terrace area reveal a shell content composed almost entirely by large shells of Pecten and Chione spp. Visual inspection of former "pot hunters" pits show a dark soil with heavy concentration of shellfish species to depths of approximately 70 cm. Evidence of a recognized cultural "time-marker", potsherds (refer to Attachment A), associated with San Luis Rey II groups have been encountered during recent site inspections conducted by the authors.

Therefore, due to the extensive nature of the deposit, and possible ancestral link to existing Luiseno groups, SDi-5130 represents a relatively intact cultural resource and as a result, a rare phenomenon to the area. The former adobe at

SDi-5133 provides documented historical native American occupation. Protective measures should be considered for this cultural resource.

7.3 SAN LUIS REY II (W-1832, W-1833, W-1838 and W-1839)

Determination as to cultural affinity at W-1832, W-1833, and W-1838 is based primarily upon the presence of Tizon Brown Ware fragments. It has been suggested by various archaeologists (True, et al. 1974:94; McCown, 1955) that pottery was introduced into the region at 1200 to 1300 A.D., but was not an important element or used extensively until 1500-1600 A.D. This study accepts the given premise that the San Luis Rey II complex is synonymous with the use of ceramics and that the relative base date of 1200 A.D. will serve as the transition point between San Luis Rey I and II periods.

Current site condition at W-1832 prevents adequate resource assessment for subsurface analysis. As mentioned within Section 5.3, burial of cultural debris precluded efforts to accomplish the desired field objective. Reliance upon data gathered during the initial survey must be, by necessity, a viable analytic alternative. It is readily apparent that site location within the river channel subjects cultural resources to maximum impact by seasonal floods. Settlement along the immediate flood channel, though, was probably a common occurrence by native Americans. Site selection factors include: proximity to the water, the presence of a variety of riparian plant sources, game, shelter, and firewood, necessities which are easily procured within the immediate floodplain. The scouring action of the flood waters of 1978 uncovered this resource. Subsequent rainfall and movement of alluvium created by the rains of 1979 reburied the site. The question is how many more sites of similar deposition undergo this process of burial or reburial? The uniqueness of the deposit at W-1832 is that there is a high probability for the existence of innumerable small temporary camps, all subject to the same disruptive natural forces.



**Table 13**  
**SHELL SPECIES AND THEIR ENVIRONMENTS**

<u>SCIENTIFIC NAME</u>	<u>COMMON NAME</u>	<u>ENVIRONMENT</u>
<b>Donax gouldii california</b>	<b>Bean Clam</b>	<b>Open Beach</b>
<b>Aequipecten sp.</b>	<b>Pecten</b>	<b>Mud Flats</b>
<b>Chione spp. californiensis fluctifraga undatella</b>	<b>Banded Chione Smooth Chione Wavy Chione</b>	<b>Intertidal/Subtidal Muds Intertidal/Subtidal Muds Intertidal/Subtidal Muds</b>
<b>Ostrea lurida</b>	<b>Native Oyster</b>	<b>Mud Sandflats and Shallow Water</b>
<b>Cerithiopsis sp.</b>	<b>Horn Shell</b>	<b>Mudflats</b>
<b>Salen sp.</b>	<b>Razor Clam</b>	<b>Intertidal</b>
<b>Acmaea sp.</b>	<b>Limpets</b>	<b>Rocks, intertidal</b>
<b>Haliotis</b>	<b>Abalone</b>	<b>Rocks, deep water</b>

resource procurement and dispersal of resource items along the entire San Luis Rey drainage was also a relatively common occurrence. A complete ceramic analysis of recovered sherds was not made at this time. An analysis of ceramics encountered at W-1833 indicate a burnishing technique, possibly introduced by Spaniards after 1790 (refer to Section 6.4 for discussion). cursory examination of prehistoric sherds indicate they are a common local ware.

The presence of eight different species of shellfish and recovery of fish vertebra within a single test unit at W-1838 and four shellfish species at W-1839 may serve as an indicator of resource seasonality and procurement technique of Luiseno/San Luis Rey II groups. Comparison of shell species obtained at W-1838 with those of other shell at California coastal middens, point to a relatively narrow range of species types. Several sites, including W-578 near Encinitas, California, contained 39 species (Carrico 1976). At least 20 different shell species were recovered at Carmel Valley (W-20) (Gross 1970:7) and at Batiquitos Lagoon (SDi-603) (Warren and Pavesic 1963:411-438).

Table 10 and Table 12 reflect shell species taken at W-1838 and W-1839 and the environmental conditions in which they occur. The preponderance of Donax sp. (2,596.5 gross and 57.1 percent of the total) at W-1838 is evidence of resource procurement along the open beach environment. Donax occurred in large amounts along the immediate coastal strip in every season but winter (Flower et al. 1977:180). W-1838 and W-1839 are situated 1½ miles inland from the immediate coast. Do accounts of Luiseno winter migrations to coastal areas conform to recovered archaeological data? Or does archaeological evidence warrant consideration of multi-seasonal movement and resource procurement activities? Movement along the San Luis Rey River drainage proper may be a more complex issue than evinced from previously available settlement information.

Theories of settlement of the coastal strip by interior groups during the winter time is based on the following assumption: extreme low tides (conducive to collection of shellfish from lagoon, reefs and rocky shores) occur both in winter and summer months. Two factors are believed to have precluded extensive native utilization during the summer. It has been proposed that the lowest summer tides along the San Diego coast generally occur during hours of darkness. Secondly, red tide, with the concomitant toxin generated by dinoflagellates (genus Gonyaulax) makes ingestion of most open-coast bivalves and crabs at times fatal, if not disabling (Richetts and Calvin 1968:185-187; Reish 1972:15-16). These factors may be a definite cultural determinant relative to resource exploitation.

Through excavation and analysis of shellfish remains at W-1838 and W-1839, it has been determined that Donax sp. (not available in large quantities in winter), Chione sp. and Pecten sp. are the dominating species. Intermixing of three distinct shell types, hypothesized as reflecting differing seasons, have accumulated proportionately throughout all levels of the deposit. The recovery and analysis of fish vertebra at W-1838 may provide the key to more conclusive statements regarding settlement and seasonality of late prehistoric people in the area.

Gaspar de Portola's land expedition along the North County coastline in July of 1769 may be an aid in resolving conflicts of seasonality, settlement, etc. Upon reaching the San Luis Rey Valley, near what is now El Camino Real, it was noted that two large Luiseno villages were situated on both sides of El Camino Real and at opposite ends of the valley. The largest possible remaining and probable locales of these villages include what is now the Mission San Luis Rey complex, and the area in the vicinity of SDi-5130.

Portola's party reached the floodplain and encountered occupants of one of these villages. To the people residing in the valley floodplain, the San Luis Rey area



was known as Keish. Gifts were made to the native Americans (glass beads) by the Spaniards, who in turn received fish nets. Friar Crespi observed that native occupants, when approaching the Spaniards, were seen to be painted in various colors. The relevance of these observations pursuant to the field investigation is as follows: 1) the Spanish document a large Luiseno settlement in the lower San Luis Rey in summer; 2) the native gift of fish nets to the explorers document a resource procurement technique; and 3) the use of body paints by native Americans (most likely secured from mineral resources (hematite) received additional credibility when 5 fragments of hematite were recovered at W-1838 from several levels (to a depth of 80 cm) within Unit 1.

Palou (1926:123) mentions that "near what is now San Juan Capistrano, we came upon some deposits of fine red ochre, and some others of very white earth...we inferred at once that from this earth the heathens provide themselves for their paint, which is their gala dress for their visits and their war feasts."

The use of ethnographic analogy coupled with cultural debris encountered within the archaeological record are not presented as definitive statements regarding site function or temporal probability, but rather reiterate the complexity of settlement, which will hopefully direct expanded area research.

Upon establishment of the mission system (San Luis Rey 1798) Christianization of the indigenous population was a prime goal of the Spanish priests. Formation of the mission, and conversion of the neophyte populationn was not an overnight occurrence. Settlement practices, long established by Luiseno groups, did not entirely disappear upon Spanish occupation. Termination of pre-contact San Luis Rey II lifeways was not immediate, and it appears that local groups tenaciously maintained many pre-contact behavioral patterns. Therefore, transitional lifestyle, conforming to our chronological

order, is best observed occurring within the study area at W-1833, SDi-5133, SDi-5131, and outside the study area at W-569 and W-571 (Carrico n.d.).

#### **7.4 POST-CONTACT 1769-1900s**

For general classification purposes, the Spanish, Mexican, and American periods have been combined with specific eras discussed as they occur at selected resource areas.

By the time of final mission secularization in 1832, Spanish acculturation of the neophyte population was well-established. During the early mission formation, post 1798, native American populations nearest to the mission received the first thrust of acculturation. Upon Spanish dominance, outlying Luiseno populations were brought under control. Initially, it was necessary for the mission fathers to allow the neophytes to continue their former settlement and subsistence practices if any survival (both Spaniard and Indian) was to be ensured. It is therefore conceivable that many nearby resource areas first observed by Spanish explorers, were occupied by Luiseno until the mission system, could survive by its own resources. Artifacts of early Spanish occupation (pre 1832) were not encountered during the present investigation. Evidence of material of this nature would have most likely been hard to come by even for the Spaniard and dissemination of glass, porcelain, tools to neophyte populations residing in their old habitats, an unlikely happenstance.

In a soon to be published manuscript (Carrico, n.d.), heretofore unaddressed questions are revealed concerning the native American transitional lifestyle in the post-secularization period. The archaeological investigation was focused on two sites (W-569 and W-571, seen in Figure 2), just off Murray Road and within one-half mile of the flood control project's most eastern extent. Site occupation is believed to have occurred no earlier than 1830, up and until the 1870s. The early date has been established as a

result of the recovery of a "Phoenix" button, a trade item not manufactured prior to 1830.

Analysis of historical debris recovered from the investigation at W-569 indicate that the items (ceramics, bottle glass, adobe tiles) were manufactured by early nineteenth century Europeans and subsequently used by local Luiseno groups. As revealed in the analysis, the admixture of traditional native American stone tools and ceramics with that of introduced European goods documents a transitional period in the Luiseno culture. Evidence of earlier Spanish contact (prior to 1830) was not found at W-569.

It is hypothesized that occupants of W-569 sought those items they perceived as useful to maintenance of their lifestyle, and that procurement of glass, porcelain, and adobe was achieved by retrieval of discarded items, or received as gifts from European settlers. The variety of historic material, the presence of a traditional tool kit (manos, hammerpounders, flakes) and a wide range of prehistoric ceramic types (Tizon Brown Ware mixed with Lower Colorado Buff Ware) reveal a marked change in the former hunting and gathering society. Aside from the property adjacent to the Mission San Luis Rey, archaeological evidence of the Luiseno transitional period in this area has been ill-defined.

A termination of native American occupation at W-569 was most likely a gradual process. With the formation of area ranchos (Guajome, Buena Vista, Agua Hedionda, and San Marcos), dispersal of local populations into these areas was hastened.

In the 1860s and early 1870s, the San Luis Rey River valley witnessed an influx of people from Texas and New Mexico. Among these early settlers was the Hubbert family. They established what became known as the Hubbert ranches, located on the north side of the river, near W-1837, W-1838, W-1839, SDi-5130, and SDi-5133. They resided in the San Luis Rey area for over ninety years.

The property comprised 880 acres and was owned and operated by various members of the family. The Ben F. Hubbert ranch house is still standing (though unoccupied) immediately north from W-1838. The brother of Ben Hubbert, Preston, homesteaded a portion of land containing the significant archaeological site, SDi-5130. At that time, 1873, there was believed to be an Luiseno rancheria with two or three adobe structures, occupying what Preston Hubbert claimed as his. Upon the arrival of Preston Hubbert, the Luisenos moved north into the Whelan Lake area. Hubbert reportedly razed the former structures and built his own adobe in 1874-1875. He was believed to have secured mission adobe brick (and reusing the former structures' tiles) to construct his adobe. The Preston Hubbert adobe was burned in late 1964. Photographs taken by relatives in 1965 show the adobe after the fire. The slide-photos show a one-room adobe house, with walls intact.

An archaeological survey on the property (Drover 1977) relocated the former structure (designated SDi-5133) and was described as "Mexican American historical." It was comprised of melted adobe walls, 3 structures, 2 sizes of floor tiles, ceramics, glass and butchered animal bone.

The existence of the Luiseno rancheria on the Hubbert property in 1873 represents a terminal date for native American site occupation. American surveyor James E. Freeman, working in the San Luis Rey River valley in 1854, describes a rancheria named Keish in the general vicinity (Carrico and Franklin 1978:35). According to the historical accounts, Luisenos were residing at SDi-5130 prior to 1854, and were occupying a pre-contact site of relative antiquity (La Jolla III/San Luis Rey I). Was site selection motivated by practical consideration, i.e., elevated above the floodplain, on topography suitable for post-contact agricultural activity, etc.? Or was reoccupation of a traditional site area motivated by ancestral accounts, or former clan territory?

John Summers (also spelled Sommers/Somers) settled in the river valley in the late 1860s. By 1873, this individual was homesteading property adjacent to the Hubberts parcel. Luiseno relocation to the Whelan Lake area is believed to have been either on or close to the Summer spread.

The rancheria consisted of about 40 people, and according to Herbert Crouch (1967), Summer took up his land "where the Indian rancheria used to be, under the hills on the north side of the valley" (Jacques 1979a; 1979b). It appears that adobe (SDi-5131) is a remnant of the Summers residence.

Archaeological examination and analysis of debris recovered at W-1833 indicate a similar transitional lifestyle as noted at W-569, but of a later time period (circa 1880-1900s). The presence of traditional elements of Luiseno culture (stone tools, ceramics) mixed with historic debris (post 1880) at W-1833 substantiate historical accounts of native American relocation. Of major significance is the fact that through analysis of cultural debris at W-1833 and comparisons of that data recovered from W-569, we see an emerging pattern of post-contact lifestyle and culture adaptability circa 1830s to the early part of this century. Complete discussion of analysis and synthesis of the observed cultural pattern at W-1833 is presented in Section 6.4.

It is expected that future surveys and research into the lower San Luis Rey River drainage may encounter similar sites and document further Luiseno cultural transition. The investigators believe that despite their present condition, the historic structures SDi-5133 and SDi-5131 should be considered historically significant.

#### 7.5 SIGNIFICANCE SUMMARY

In summary, archaeological sites W-1833, W-1837, W-1838, W-1839 and any portion of SDi-5133 within the proposed flood control are deemed significant cultural resources. Based on existing data these sites should be considered as eligible for inclusion to the National Register of Historic Places as a historic/prehistoric district under criterion.

## SECTION 8

### RECOMMENDED MITIGATION

#### 8.1 DIRECT ADVERSE IMPACT

For the purposes of this study, direct impacts are defined as those alterations in landform or altered use that are a function of proposed dredging or channelization within the San Luis Rey River. The resource areas proposed for dredging or channelization are generally located in and adjacent to the existing center of the river channel. Severe project impacts will occur to sites W-1832, W-1834, W-1835 and W-1839. Based upon present data secured from surface analysis and subsurface tests, the following information was obtained.

##### 8.1.1 W-1832

Seasonal flooding has seriously disrupted in situ data on the site. An approximate four foot alluvium overburden is present at the site in areas where formerly ceramics and shellfish were observed. A posthole excavated to 60 cm in a remembered area of cultural debris accumulation was negative. It is beyond the scope of the investigators to retrieve additional subsurface information. It is therefore recommended that an archaeologist be present when overburden removal is initiated by Army Corps of Engineers contractors. This monitoring action should constitute a viable mitigation measure.

##### 8.1.2 W-1835

The degree of disruption observed in the area and the recovery of fragmented cultural remains most likely represent a site created by secondary deposition. Therefore, no further testing is required.

#### **8.1.3     W-1836**

As is the case with W-1835, this site appears to be a secondary, badly disturbed deposit. No further testing or mitigation is required.

#### **8.1.4     W-1839**

Site W-1839 is potentially eligible for National Register nomination and may be impacted by river channelization. Mitigation of potential impacts through avoidance or data recovery is recommended. As discussed in Section 8.2 and 8.3 appropriate data recovery or avoidance should be carefully coordinated.

### **8.2     INDIRECT ADVERSE IMPACT**

The remaining sites (W-1837, W-1838, W-1833 and SDi-5130/5133) are apparently removed from the primary import zone within the main river channel. These sites are generally located on terraces or elevations above the areas proposed for dredging.

However, indirect impact may result from construction of access roads, maintenance of staging areas or tiering of sand/soil dirt after its removal from the center of the river channel. Indirect impacts may be as severe and damaging as direct impacts or they may be relatively minor, depending upon specific engineering plans.

Based upon preliminary analysis of subsurface and surface cultural debris encountered at sites W-1837, W-1838, and W-1833 a significant body of information has been secured. Depth of cultural material was in excess of 1 meter at W-1833, W-1837 and W-1838. These sensitive archaeological resources should receive maximum protective measures. Protective measures to be implemented at W-1833, W-1837, W-1838, and SDi-5130/5133 should include:

1. Site avoidance based upon site areal extent provided by the current study, Section 6.0. An archaeologist could work closely with Corps design engineers to ensure that the proposed project will avoid earth removal, landform alterations, or other direct impacts to these archaeological sites. If the Corps redesigns their project and places

contractual safeguards in their subcontracts to ensure avoidance of W-1833, W-1837, W-1838, and SDi-5130/5133, impacts associated directly with the project can be averted or mitigated.

2. Salvage excavation — if any of the sites discussed within this report are unable to receive protection via site avoidance then a phased study of salvage may be required.

The extent of the subsurface testing should be based upon the actual individual site size, landform, and topographic features. The sample should be large enough to accurately define subsurface site boundaries and recover enough data to address a research design. Salvage excavation of any site within the study area should not proceed without a flexible research design.

### 8.3 NATIVE AMERICAN CONCERNS

Native American consultation for the testing at the seven sites in the San Luis Rey floodplain was provided by Mr. Henry Rodriquez, a Luiseno from the Pauma Indian Reservation. WESTEC Services, Inc. has worked with Mr. Rodriquez on several projects in the San Luis Rey area. For this project and others the Native American Heritage Commission (NAHC) has advised project archaeologists to consult with Ms. Patricia Duro the local NAHC commissioner. In turn, Ms. Duro recommended Mr. Rodriquez has a qualified representative.

Prior to commencing fieldwork Mr. Rodriquez met with Randy Franklin and Richard Carrico at the WESTEC Services, Inc. offices to discuss the Army Corps San Luis Rey project (see Attachment E). Mr. Rodriquez expressed an interest in the project, specifically in sites W-1838 and SDi-5130. Arrangements were made for Mr. Rodriquez to visit these sites, and others during testing. However, conflicts in schedules, and more importantly failure of the Deauch Companys to allow entry (sites W-1837, W-1838 and W-1839), preclude such visits.

Based on our archaeological data and his personal knowledge Mr. Rodriquez stated that sites W-1838 and SDi-5130 were important Luiseno sites which should either



be preserved or dealt with in such a manner that Luiseno elders would not perceive the Army Corps project as destructive. Mr. Rodriguez thought that careful scientific investigation of any endangered sites, with native American observation would be acceptable. Mr. Rodriguez expressed an desire and willingness to take part in any future research and should be consulted if such work is planned.

## **SECTION 9**

### **CONCLUSION**

The archaeological testing and historical study, in response to the proposed flood control channel along the lower San Luis Rey River drainage, has produced a wealth of significant information concerning settlement of this region. Through analysis of site data and synthesis of historical accounts, it has been possible to establish a relative chronological sequence of occupation in the river valley. It has been shown that native American settlement extends at least 600 years B.P. and that remnants of their culture tenaciously maintained residence until the early 1900s. While this report is basically descriptive in format and lacks an explicit research design, future study should include stated research objectives. The current study has proposed several potential research avenues and it is hoped that independent investigators subject the recovered data and hypotheses to rigorous analysis.



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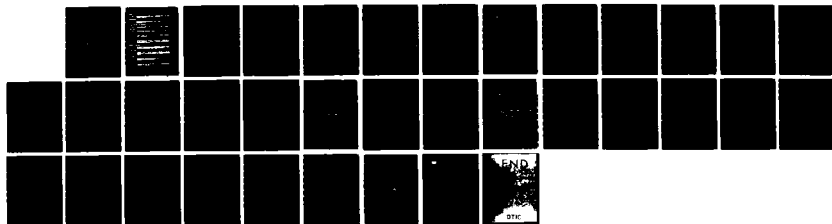
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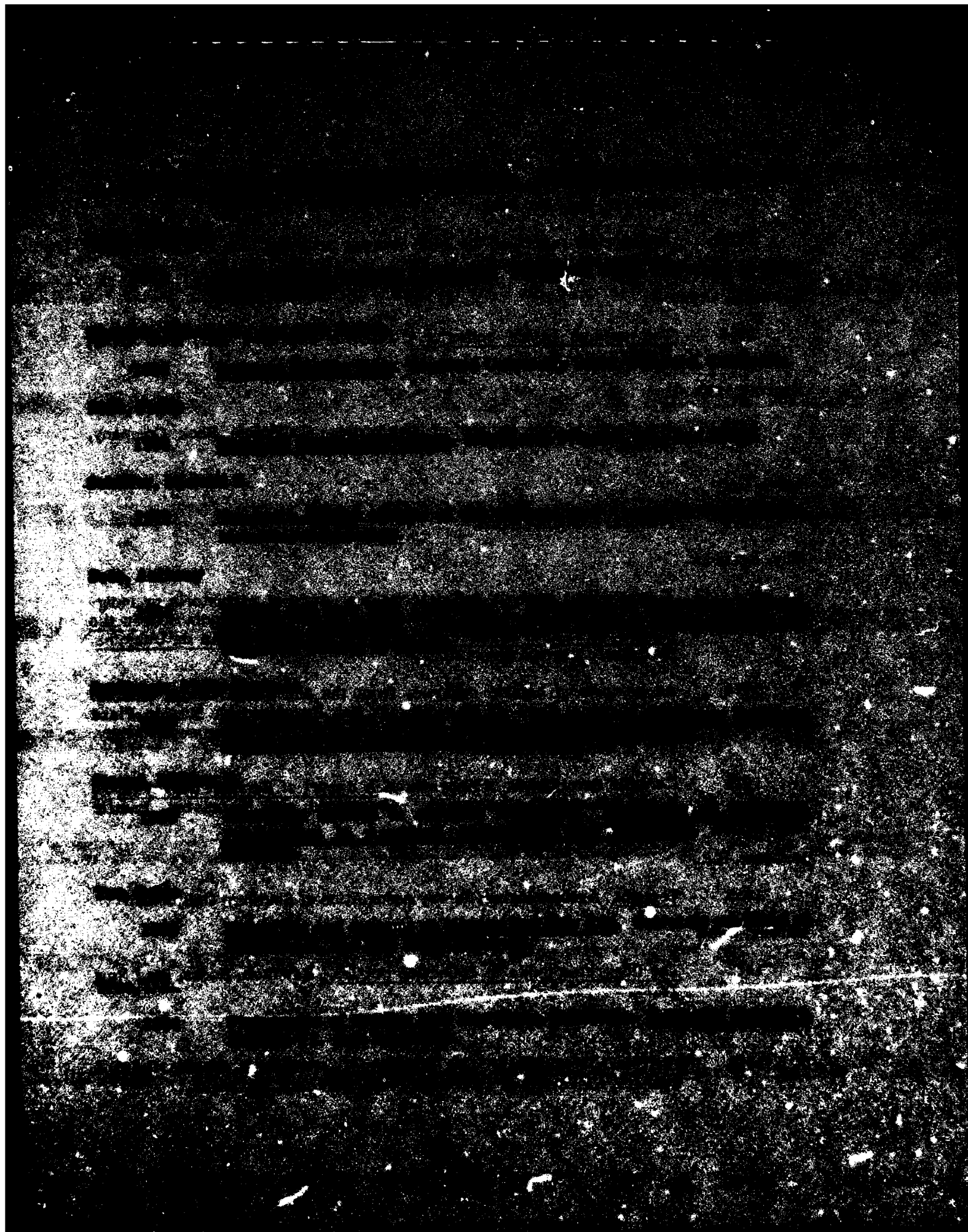
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**ATTACHMENT A**  
**PREHISTORY OF SAN DIEGO COUNTY**

Attachment  
CULTURAL HISTORY

In the prehistoric past, the area now comprising San Diego County was densely occupied by native American peoples including at least three major cultures. From roughly 12,000 to 8,000 years ago, the San Dieguito people were the sole inhabitant of this region. Beginning about 8,000 years ago and extending to about 3,000 years ago, the La Jolla-Pauma culture was in existence, with the Pauma aspect being present in the inland regions. Commencing about 2,500 years ago and 1,000 years ago respectively, the Kumeyaay (Diegueño) and Luiseño lived and hunted in the area. A broad overview of the three major cultural patterns is provided below.

The following cultural history is a means of outlining and briefly describing the known prehistoric cultural traditions. A primary goal of a cultural history is to provide a diachronic or developmental approach to past lifeways, settlement patterns and cultural processes.

Lacking a synthesis of valid, regionally specific data, we are forced to fall back on a geographically generalized accepted cultural history which is at best ill-defined. As perceived by recent scholars, at least three major cultural patterns have operated in San Diego County (Table CH-1). There is also the possibility that a much older "Early Man" period may have existed in North America, if not San Diego County.

Recent research and experimentation with amino-acid dating (Bada 1974) has given new life to a decades-old assertion (Carter 1957) that humans were in the New World, and specifically along Mission Valley and the San Diego River, over 40,000 years ago. Although such a possibility exists, and continuing research seems to point in that direction, many scholars are unwilling to categorically state that humans occupied the New World before approximately 30,000 years ago. Continued research in the Arctic

Table CH-1

## CHRONOLOGICAL MODEL FOR SAN DIEGO COUNTY PREHISTORY AND HISTORY

<u>CLIMATE</u>	<u>TIME</u>	<u>CULTURAL SETTING</u>	<u>STAGE</u>
<u>Mediothermal</u>			
Moderately warm; arid and semi-arid	1876 A.D.	Reservation Period Anglo-European Era Mexican Era	Historic
	1850 A.D.		
	1830 A.D.		
	1769 A.D.	Hispanic Era	Historic
	1542 A.D.	Spanish Era	Protohistoric
	1000 A.D.	Late Prehistoric cultures	Late Milling
	3,000 B.P.	La Jolla Complex termination	
<u>Altitothermal</u>	4,000 B.P.		
	6,000 B.P.	Los Compadres (W-578) occupied	
	7,500 B.P.	La Jolla Complex	Early Milling
<u>Anathermal</u>	8,000 B.P.		
		Harris Site (SDI-149) occupied	
	9,500 B.P.	San Dieguito Complex	Paleo-Indian
Climate like present but growing warm, humid and subhumid			
<u>End of Glaciations</u>	10,000 B.P.		
	21,000 B.P.	Yuha Man	Early Man
	48,000 B.P.	Del Mar Man	Early Man

region and which, with some exceptions, have been dated by the use of dated New World  
comparisons. The earliest dated San Diego I phase artifact is a flint arrowhead  
dated to 11,000 years old. The oldest well-documented inhabitants of the region were apparently the  
Paleo-Indian San Dieguito people. Typical as nomadic large-game hunters, these  
people occupied the mesas, mountains and deserts of San Diego County roughly between  
11,000 and 8,000 years ago (Warren 1961:222-224; Rogers 1968:142-143; Esch 1974-  
personal communication). The culture of the San Dieguito people has been divided into  
three relatively distinct phases representing assumed variations in time and space.  
Within these three phases exist various "industries" that are geographically and  
ecologically based; these are not of specific concern in this analysis. San Dieguito I,  
the oldest of the known Paleo-Indians in San Diego County, inhabited the desert regions  
east of the Cuyamaca/Laguna mountain ranges as long ago as 11,000 years (Childers  
1974; Esch 1974-personal communication).

In general, the ancient hunters of the San Dieguito I phase apparently left little  
or no permanent record on the land, except for their scattered lithic tools, waste stone  
debris and two recently discovered burials in the Yuma Basin-Tropic Haven area (Rogers  
1968:28-31; Esch 1974-personal communication; Childers 1974; Wallace 1968:189-191).  
Broad characteristics of the San Dieguito I people include their manufacture and use of  
crudely formed stone flakes, blades and scrapers.

San Dieguito II is found both in the desert and throughout western San Diego  
County. Lithic artifacts represented by this phase include more finely worked blades,  
somewhat smaller and lighter points, and a larger variety of scrapers and choppers. In  
general, however, the same morphological types remain basically unchanged from the  
earlier phase. Like their predecessors, these people were medium-to-large-game

hunters, although foraging must have served to supplement their diet (Warren 1961:262; Moriarty 1969:1-18), perhaps to a greater extent than most scholars have implied.

The terminal San Dieguito phase, San Dieguito II, represents a morphological and typological change, as indicated by an altered technology. The tool types become far more varied both in style and in functional design, thus indicating a change in the culturally determined mental templates. Such alteration in technological form can be attributed to environmental adaptation and/or a technological "snowball" effect, wherein technological advances and changes thrive and feed on themselves and progressively create a new technological mode.

As a result of such technological changes, the tools of the San Dieguito II phase exhibit not only a wider variety of tool types, but also a fundamental refinement in tool manufacture. A primary difference in tool technology is represented by the introduction of pressure-flaked blades and points. Unlike simple percussion flaking, pressure flaking requires a more delicate touch and more finely conceived mental template. The resulting tools exhibit form, complexity and balance not found in the early phases of the San Dieguito people.

Other diagnostic traits associated with San Dieguito III include planes, choppers, plano-convex scrapers, crescentic stones, elongated bifacial knives, and intricate leaf-shaped projectile points (Rogers 1939:28-31). Beyond specific tool types and the introduction of pressure flaking, there exists no absolute method of discerning between San Dieguito II and III. Patination, a weathering process involving chemical change on the surface of stones, is a relative guide to antiquity and provides gross distinctions between the San Dieguito phases; however, its use is limited by the many variables which are involved in its application.



B. La Jolla-Pauma

By about 7,000 years ago, a new group of peoples had begun to inhabit and exploit the coastal and inland regions of San Diego County (Moriarty 1969:12-13). These people, the La Jolla, were nomadic exploiters of maritime resources (Harding 1951; Moriarty *et al* 1959:185-216; Wallace 1960:277-306), who also relied on seed gathering and vegetal processing. The La Jolla people may have been entering into the mortar and pestel phase late in the terminal stage of the La Jolla-Pauma transitional period (Warren 1961). The tool types of the La Jolla indicate that these members of what Wallace (1955) terms Early Milling Horizon possessed a far greater reliance on the sea and foraging than their predecessors, the San Dieguito people, although Kaldenberg and Ezell (1974) have excavated at least one San Dieguito site, W-49, which contained a well-defined shell midden. The variety and quality of lithic tool manufacture is much more basic and unrefined when compared with even the basal phase of the San Dieguito complex.

Characteristic traits of the La Jolla culture include fire hearths, shell middens, flexed inhumation, grinding implements, and absence of ceramics. The archetype La Jolla sites are located along the coast near bay or lagoon areas. Several classic La Jolla sites are situated on the terraces above Agua Hedionda Lagoon and Batiquitos Lagoon.

In recent years, inland La Jolla sites of a seemingly later period have been discovered in transverse valleys and sheltered canyons, including Valley Center (True 1959:225-263; Warren *et al* 1961:1-108; Meighan 1954:215-227). These non-coastal sites have led to a new name for La Jolla-type sites with an inland location. True (1959), Warren (1961) and Meighan (1954) had applied the term Pauma Complex to certain inland sites which possess a predominance of grinding implements (especially manos and

metates), lack of shell, greater tool variety, more sedentary life patterns than expressed by San Dieguito sites, and an increased dependence upon gathering. However, it is more probable that these inland sites represent a non-coastal manifestation of Early Milling peoples who adopted or developed a hunting mode more so than their coastal brethren. Wallace (1955:214-230) denotes this late transitional phase as Intermediate, and establishes its position between Early Milling Horizon and Late Milling Horizon.

C. Kumeyaay/Northern Diegueño - Luiseno

By 2,000 years ago, Yuman-speaking peoples sharing cultural elements had occupied the Gila/Colorado River drainage (Moriarty 1966). Through gradual westward migration the Yumans drifted into Imperial and San Diego Counties, where they came into contact and apparently acculturated with the remnants of the Early Milling La Jolla cultural tradition (Moriarty 1965, 1966). Because of basic similarities in the late La Jolla/early Yuman patterns, it is difficult to clearly define the contact period or point between La Jolla/Yuman.

Dr. James R. Moriarty (1965, 1966) has suggested that there existed a pre-ceramic Yuman phase, as evidenced from his work at the Spindrift Site in La Jolla. Based on a limited number of radiometric samples, Moriarty has concluded that a pre-pottery Yuman phase occupied the San Diego coast 2,000 years ago and that by 1,200 years ago ceramics had diffused from the eastern deserts.

Although some researchers still follow Malcolm Rogers' belief that Yuman peoples first appeared in San Diego County only 1,000 years ago (Rogers 1945), there is a growing body of data supporting Moriarty's hypothesis. A recent excavation of a La Jolla/Kumeyaay site in Sorrento Valley (Carrico 1975) encountered a cultural stratification with a basal date of 3,755 years ago and a terminal date of 2,525 years ago. It is

worth noting that the upper stratum (0-10 centimeters) of the dated column contained ceramics and projectile points commonly considered time-markers indicative of Late Milling Kumeyaay. Radiometric dating of a large shell sample from this stratum produced a date of  $2,525 \pm 70$  years B.P. The near absence of ceramics and total lack of projectile points below the 10-centimeter level, within a series of strata that contained a variety of seemingly early cultural material dated at  $2,925 \pm 70$  B.P. (30-40 centimeters) and  $3,755 \pm 75$  B.P. (50-60 centimeters) may indicate that the Rimbach Site is a multi-component culturally stratified site containing a transition between La Jolla and Yuman circa 2,500 years ago.

Whether Yuman peoples moved into the area 2,500, 2,000, or 1,500 years ago, they brought with them a culture heavily influenced by their Yuman neighbors in the eastern desert region of California and along the Colorado River. These pre-historic/protohistoric peoples possessed ceramics, operated a closely knit clan system, utilized a highly developed grinding technology, had elaborate and extremely complex kinship patterns, created rock art, and carried on extensive trade with the surrounding cultural areas (Rogers 1945:167-198; Kroeber 1970:709-725; Strong 1929). It has also been postulated that the Kumeyaay and their neighbors to the north, the Luiseno, may have been practicing a basic type of protoagriculture prior to Hispanic contact (Lewis 1973; Shippek 1974:personal communication; Treganza 1947).

About 1,000 to 1,500 years ago, a group of Shoshonean-speaking people migrated out of the Great Basin region and intruded like a wedge into southern California. This wedge separated the Yuman groups and was eventually to cause great cultural variations (Kroeber 1970:178; True 1966). In coastal San Diego County, this group of Shoshonean intruders has been labeled the San Luis Rey I and II Complex (Meighan 1954:215-227). When the early Hispanic explorers contacted these people,

they called them Luisenos, after the Mission San Luis Rey de Francia founded in the heart of Luiseno (San Luis Rey II) territory. Agua Hedionda Lagoon is traditionally considered as the point of separation between Northern Diegueño and Luiseno territory.

Although of a different linguistic stock, the Luiseno and the Diegueño (after San Diego) shared many cultural traits. D.L. True (1966) has suggested that basic similarities in ecological exploitation, environmental setting and temporal placement forced the late-coming and highly nomadic Shoshoneans to adapt to a life style and cultural pattern that was established and functioning upon their arrival. D.L. True outlines certain attributes or traits which he finds as dissimilar between the two cultures. He notes that Luiseno projectile points are more basic than those of the Diegueño; those of the Luiseno are predominantly made of quartz. He also notes that ceramics were evidently a late development of the Luiseno; they probably learned the use of pottery from the Northern Diegueño. True also postulates the Luiseno possessed a very small, very closed trade network; that in general they were not as world-aware as the Diegueño, although Luiseno cosmology and religion seem better developed.

Luiseno territory encompassed an area from roughly Agua Hedionda inland to Escondido, east to Lake Henshaw, north into Riverside County, and west through San Juan Capistrano to the coast. The general area supported large populations of Luiseno, both in historic and prehistoric times. The Luiseno exploited a lush and bountiful environment within their territory through well-adapted seasonal migrations, extensive knowledge of native plant life, establishment of clan-governed districts, and various social control mechanisms.

The Luiseño were/are one of the most mystically sensitive and religious peoples of California. Even a cursory analysis of their cosmological tales, shamanism, world-view, and numerous specialized religious ceremonies reveals a deep-rooted, well-conceived, thoughtful approach to life's mysteries (Sparkman 1908:215-227; DuBois 1098; Kroeber 1970).

D. Protohistoric Period

The Hispanic intrusion (1769-1822) into native-American southern California affected the coastal tribes and peoples living in well-traveled river valleys. The Mexican Period (1822-1848) saw continued displacement of the native population by expansion of the land grant program and development of extensive ranchos. The Gold Rush and the concomitant granting of statehood, combined with an influx of aggressive, land-hungry Anglos, caused a rapid displacement of the natives, as well as deterioration of their culture and lifeways (Shipek 1974; Bancroft 1886; Kroeber 1970).

The literature on these later peoples, the Kumeyaay, Luiseño, Cahuilla, Cupéño and others, is rather extensive and includes Barrows (1900), Bean and Saubel (1972), Caughey (1952), Gifford (1918), Hayes (1929), True (1970), Heizer and Whipple (1957), Hooper (1920), Kroeber (1970), Cuero (1968), Sparkman (1098:87-234), and Strong (1929).

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**ATTACHMENT D**

**THE VERTICATE ANALYSIS FROM 1999  
BY MARK SUNDEN**

## Attachment B

### Pimelometopon pulchrum (Ayres) - California sheephead

The modern range of the California sheephead is Monterey Bay, California to Cabo San Lucas, Baja California. It also occurs throughout much of the Gulf of California. Sheephead are most abundant in waters 10 to 100 feet in depth, over rocky bottoms, and in and around kelp beds. The largest individual ever taken (1956) was a male speared off Point Loma, California, which weighed  $36\frac{1}{2}$  pounds.

Sheephead feed upon a wide variety of marine invertebrates such as sea urchins, sand dollars, mussels, kelp oysters, small snails, abalones, lobsters, hermit crabs, tube dwelling polychaetes, squid and octopi (Fitch and Lavenberg 1971). Medium size sheephead have been found in stomachs of giant sea bass, although they have few natural enemies.

In southern California, sheephead remains (*primarily canine and pharyngeal teeth*) are one of the most widely reported fish species from coastal and island middens (Fitch 1969). In San Diego County, sheephead remains have been recovered from W-149, Rancho La Costa (Roeder, in press); W-137, Carlsbad (Roeder 1977); W-389b, Harkness Portion, Bancroft Ranch, Spring Valley (Roeder, unpublished manuscript, San Diego State University, Anthropology Department); Scripps Estate, La Jolla (Shumway et al. 1961); and W-12, La Jolla (Roeder, unpublished data).

A single fragment (burned) was recovered. Because of the fragmentary condition of the vertebra, no estimate of fish size or weight could be made. Although sheephead normally are found in coastal kelp beds, a study (City of Carlsbad Planning Commission, 1976) showed that they are present in Agua Hedionda Lagoon. It is possible that the inhabitants of W-1838 could have taken this fish on hook and line at the estuary at the

mouth of the San Luis Rey River. Sheepshead usually stay in and around kelp or other marine vegetation, but they are known to stray over open sandy bottom areas, where they would be vulnerable to seining. No physical evidence of fishing gear such as hooks, bone gouges, and net weight was available, and it is possible that the inhabitants obtained fish from nearby fishing villages that may have existed on the outer coast or at lagoons.

**City of San Diego Planning Department**

1970 Fish remains from San Diego Archaeological Excavations and the San Diego Zoo Research Collection. Fish Remains from San Diego Archaeological Excavations

**Fitch, John E.**

1969 Fish remains, primarily otoliths, from a Ventura, California Chumash village site (V-4). In Memoria Southern California Academy of Science, 6 (Supplement A), 66-71.

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1977 Fish analysis in Archaeological Investigation at W-127 SDM-6029, Carlsbad, California. Unpublished manuscript prepared for Carlsbad Development Corporation by Flower, Inc. and Roth, San Diego, California, 200-273.

1979 Fish Remains (mostly vertebral) SDM-W-142. Unpublished manuscript on file with SDCON, Risk Engineering, San Diego, California.

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**ATTACHMENT C**  
**POLLEN DATA, W-1838**

Palynological Analysis  
San Luis Rey Flood Plain  
(Job #3707)

Prepared for:  
Westec Services  
By  
Analytic Pollen Services

*David R. Vork*  
David R. Vork  
Palynologist

### Discussion

The relative climate conditions recorded are all of a subtropical nature. Generally high percentages of Pinaceae tend to reflect cooler conditions or relative close proximity to a pine tree stand.

As expected palynomorph recovery decreased as sand content increased below 40-50 cm. Here also oxidation was heavy.

A single Ephedra sp. grain was identified at 0-10 cm. This group of plants is found in dry relatively warm areas only, which seemingly contradicts the rest of the data. Possible explanations may be 1) the single Ephedra sp. grain could have been reworked from surrounding fossil beds, 2) the water system (river) may drain an extremely dry area up stream, 3) distinct micro-climates existed ie. fresh water pond adjacent to an arid region, or 4) sample contamination.



### Introduction

Five soil samples were processed and analyzed for pollen and spores. Abundances ranged from fair, 65 grains, to poor, 11 grains. None of the intervals were barren and relative climates could be established for all samples. Oxidation of organics was moderate to very heavy.

Ten taxa were seen representing eight plant families at the San Luis Rey Flood Plain site.

References used in aiding with identification, taxonomy and climate determination, were "Pollen and Spores" by Ronald Kapp and "A Flora of Southern California" by P. A. Munz.

Taxa

Asteraceae (sunflower family)	Arid- Subtropical
<u>Ambrosia</u> sp. (ragweed bur group)	Arid- Subtropical
<u>Artemisia</u> sp. (sagebrush)	Arid- Subtropical
Chenopodiaceae (goosefoot weeds)	Arid- Subtropical
Ephedraceae (ephedra family)	
Ephedra sp. (mormon tea)	Arid (Dry)
Fagaceae (beech family)	
<u>Quercus</u> sp. (oak)	Temp. Subtropical
Lycopodiaceae (clubmosses)	
<u>Lycopodium</u> sp. (clubmoss)	Diverse
Pinaceae (undifferentiated bisaccates)	Temperate
Selaginellaceae (clubmosses)	
<u>Selaginella</u> sp. (clubmoss)	Diverse
Typhaceae (cat-tail family)	
<u>Typha</u> sp. (cat-tail)	Diverse (aquatic)

Figures

Fig. 1            First Occurence Range Chart

Fig. 2            Pollen Diagram (Percentage Sawblade)

# SAN LUIS REY FLOOD PLAIN

JOB#3707

D.R. VORX 9/79

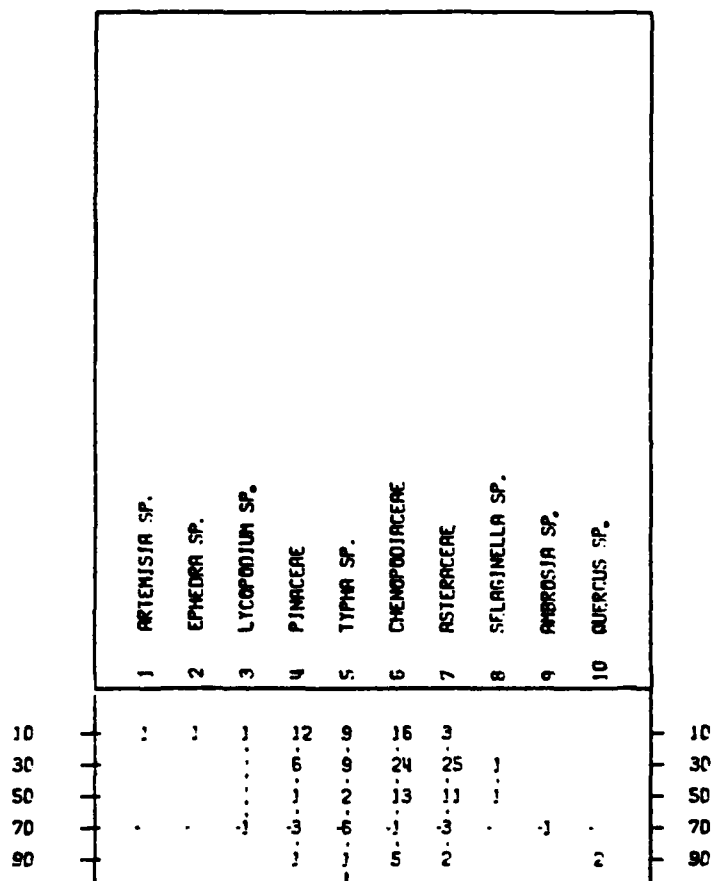


Fig. 1

# SAN LUIS REY FLOOD PLAIN

JOB#3707

D.R. VORX 9/79

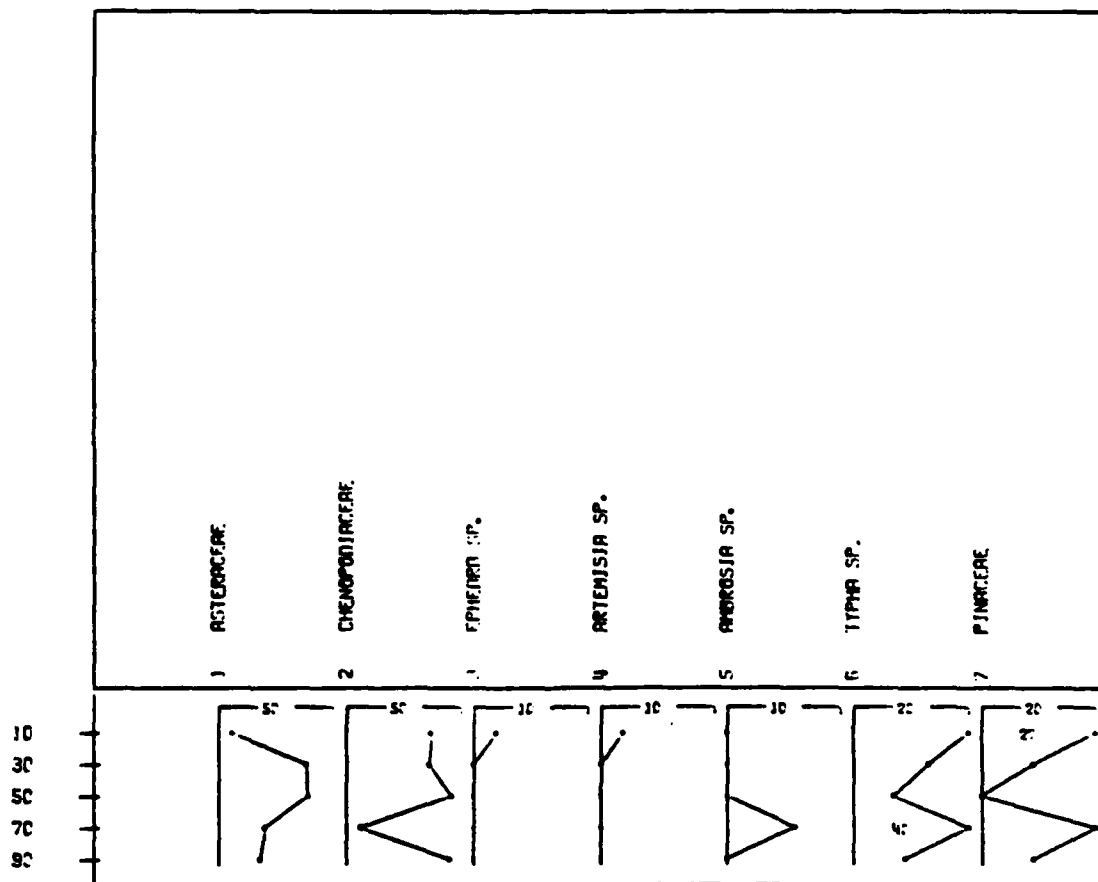


Fig. 2

Data

<u>Interval</u>		<u>Climate</u>
0 - 10cm.	Total - 43 grains	Subtropical
Fungal spores- Common	Oxidation: Moderate	(cool)
20 - 30cm.	Total - 65 grains	Subtropical
Fungal spores- Frequent	Oxidation: Moderate	(cool)
40 - 50cm.	Total - 28 grains	Subtropical
Fungal spores- Rare	Oxidation: Moderate	
60 - 70cm.	Total - 15 grains	Subtropical
Fungal spores- Rare	Oxidation: Very Heavy	(cool)
80 - 90 cm.	Total - 11 grains	Subtropical
Fungal spores- Rare	Oxidation: Heavy	

**ATTACHMENT D**  
**CARBON-14 DATA (SHELL AND CHARCOAL),**  
**W-1838**

# CENTER FOR APPLIED ISOTOPE STUDIES

THE UNIVERSITY OF GEORGIA

RIVERSBEND RESEARCH LABORATORY  
110 RIVERSBEND RD. ATHENS, GA. 30606  
(404) 542-8679

October 8, 1979

Dr. Richard L. Carrico  
Cultural Resources Manager  
Westec Services, Inc.  
3211 Fifth Avenue  
San Diego, CA 92103

Dear Dr. Carrico:

The dates for your last three samples are:

UGa-2958	W-1838, U 1 70-80 cm	615 $\pm$ 70 B.P. AD 1335
UGa-2959	W-1838-75 50-60 cm	170 $\pm$ 75 B.P. AD 1780
UGa-2960	W-1838-41 U1, 20-30 cm	165 $\pm$ 60 B.P. AD 1785

Let me know what you think of these dates

Sincerely,

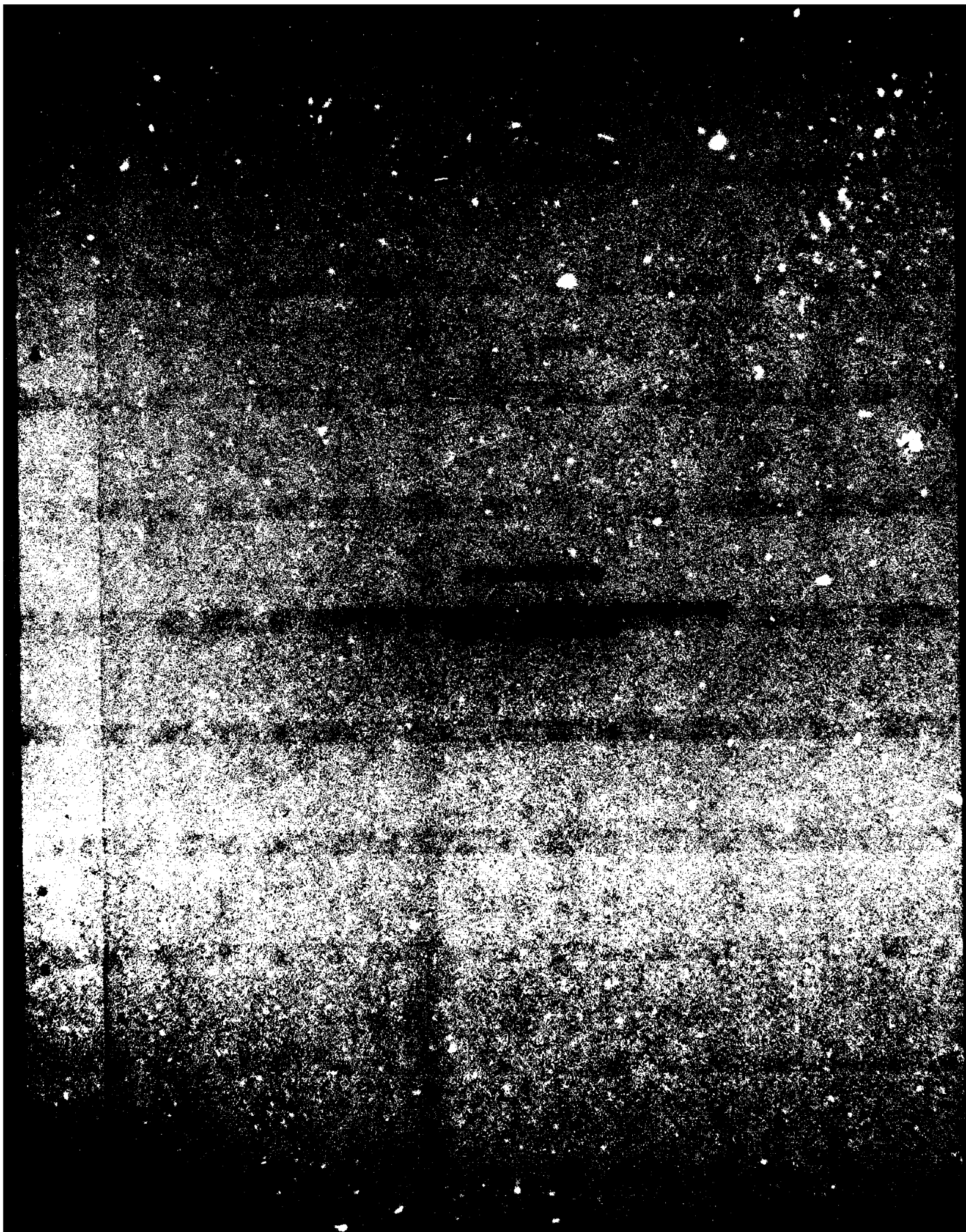
*Betty Lee*

Betty Lee Brandau  
Associate Director

BLB:cm

enclosure





WESTEC Services, Inc.

3211 Fifth Avenue

San Diego, CA 92103

(714) 294-9770



79-365E-3707-  
July 27, 1979

Mr. Henry Rodriguez  
P.O. Box 281  
Pauma Valley, California 92061

Subject: U.S. Army Corps of Engineers Proposed Flood Control  
Construction on the Lower San Luis Rey River Drainage

Dear Mr. Rodriguez:

I would like to make you aware of the Army Corps of Engineers' proposed development along the San Luis Rey River drainage within the City of Oceanside. The project will consist of major landform alterations within the floodplain and subsequent impact to recorded archaeological resources.

WESTEC Services, Inc. has been retained by the Corps to conduct a Phase I preliminary testing of eight sites to be impacted by proposed construction; they are: W-1832, 1833, 1834, 1835, 1836, 1837, 1838 and 1839 (a map has been included).

We at WESTEC Services recognize the cultural importance of the San Luis Rey River to area native Americans, and would like any advice or information you might offer. WESTEC Services carried out the initial survey during the summer of 1978; analysis of site areas at that time revealed major impacts by natural forces (flooding) and past agrarian activities.

If possible we would like for you to visit the site area while work is in progress. In the event that obstacles are encountered during the Phase I study that conflict with native American religious beliefs, cessation of field activities would be instant. Consultation with you or your appointed representative will be appreciated. If you have any questions regarding this study or require additional information, please contact the undersigned at (714) 294-9770.

Respectfully,

Richard L. Carrico  
Manager, Cultural Resources  
Group

RLC/rw

Enclosure

E-1

**END**

**FILMED**

**11-84**

**DTIC**